MANKIND

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Editor: KEITH KENNEDY

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THE EXHIBITION

When primitive man first emerged from the brute stage he was distinguished by two attributes, which marked him off from the lower animals. The first was the power of speech, the other the employment by him of implements and weapons, which gave him an advantage in the struggle for existence. His first implements were sticks and stones — sticks for digging, thrusting, and striking with; and stones for throwing, striking, and cutting. He soon discovered that some sticks—those with sharp points —were better for digging and thrusting; these evolved in one direction into yam sticks, from which has grown the modern plough, and in another direction into spears, arrows, and suchlike hunting and fighting weapons. He also discovered that some stones of siliceous composition could be fractured so as to give a sharp cutting edge, with which he could more easily fashion his implements of wood. Later he discovered that thin flakes could be struck off certain stones, and these became the first knives.

From these simple things — sticks and stones—have evolved all our modern tools, weapons, and implements, taking thousands of years to do so, passing through the Neolithic, Copper, Bronze and Iron Ages, ultimately enabling man to dominate the animal kingdom, harness the forces of Nature, and so gain control of the world.

Because of this the study of Material Culture is of paramount importance in Anthropology. In fact it is the foundation on which the science has been erected. Therefore, in order to show the various means primitive man has employed during his onward march to civilisation, the Anthropological Society of New South Wales has decided to hold an Exhibition of Primitive Arts and Crafts.

A few words about the Society. It was originated in 1928 by a small group of enthusiasts. It has continually grown, publishes its own journal, and has carried out field and research work. All its activities have been financed by the members, and it has not received any outside monetary assistance or bequests. Later on, field work on a more extensive scale may be undertaken, but this is an expensive item, and requires financial encouragement.

The collections comprise some examples of stone implements from all parts of the continent. The evidence, so far as obtainable specimens are concerned, goes to prove that there is no essential difference in type throughout Australia. A few examples of the stone implements of prehistoric man in Europe are also shown, as well as some American examples, and prove interesting for comparison.

The exhibit embraces examples of each of the different implements so far recognised, a "camp" series, showing the great range and variety of implements found at any one particular "camp," and a collection of Tasmanian stone implements, showing a high degree of secondary work; these compared with the Murramurang collection, are so alike, that it is practically impossible to distinguish them.

The main purpose of this section of the Exhibition is to demonstrate that although the aborigine has been classed as neolithic, he habitually employed a whole range of implements which elsewhere would be classed as palaeolithic, or even doubtfully recognised as human. The reason for the general European estimate of our native stone implements is that collectors have gathered "fancy" specimens of the higher types, as a rule, and neglected the cruder and more interesting forms. The noticeable crudeness and want of finish in some of the speciments is probably due to the available stone in some localities being unsuitable for what might be classed as higher forms. Therefore the principle may be laid down that the type of stone implement most commonly used in any particular locality is very largely influenced by the material most readily at hand, and not by the culture of the maker. Stress must be constantly laid on the fact that all the Australian implements shown were fashioned by the existing Australian race.

It must be clearly understood that many of the implements were used for more than one purpose. For instance, many of the larger axes or wedges have a special hollow, which shows that they have also served as mills, and many of the upper mill stones have been used as hammers. In consequence, an exact and well-defined separation into types is almost impossible. Moreover, the purpose for which some of the implements were made is now a matter of conjecture, since the Australian pioneer was rarely the type of man trained to exact scientific observation, and the introduction of iron soon led to the abandoning of stone for all purposes.

The cutting implements naturally fall into two divisions—those with a ground cutting edge and those with a chipped cutting edge. Take the flaked cutting implements from the Newcastle District, these may be termed axes, or perhaps more accurately, choppers; they are formed from natural pebbles by chipping from one side only, or a convenient flake from a core. Practically every flake or fragment of hard stone with a sharp edge was a knife from the blackfellow's point of view, although he generally contrived to strike off a flake of a more or less definite character for use in cutting.

The "scrapers" include forms closely resembling the usual palaeolithic implements of other countries. The distinguishing feature of this type is that one side approximates a plane, and that all the working and secondary chipping is done from the other side, thus avoiding a more or less wavy edge unsuited for its purpose. Occasionally the working edge is concave, with the result that the scraper is suitable for working round pieces of wood, such as spears; in other cases the scrapers have points, but the use of this type of implement as "awls" has never been observed. "Pigmy" types are found, and can be observed in one of the collections.

Probably the Australian aborigine was the greatest adept of all races in fashioning serrated spear-heads; his work with stone of a glass-like texture, and later with glass itself (broken bottles) or porcelain (telegraph insulators, etc.) stands above all others. The serrated edges are produced by pressure. Such spear heads are confined to Northern Australia, where suitable stone is fairly abundant. A valuable lesson may be learnt from the comparison of such spear-heads with those made from the coarse grained quartzites of the Desert Sandstones further south.

A few cores illustrating the results of striking off flakes and the class of stone used for this purpose are shown in one of the collections.

Next we have cutting implements with ground edges—the accepted evidence of the neolithic period, such as axes, commonly known in Australia as blackfellow's tomahawks. A few of these are grooved for hafting (Australian Museum Exhibit), this type is mainly confined to Northern New South Wales and Queensland.

Attempts have been made to group the ungrooved axes into a number of classes, generally dependent upon shape, but with little justification. The shapes are more or less dependent on the stone used and its adaptability to the crude means of shaping available. Some of the axes are made from quarried stone, others are fashioned by grinding one end of a river pebble of suitable size and material. In general, the axes are hafted, but some were used direct in the hand, and the curious "dimples" or indentations on some of them may have served as finger grips, or husking holes.

One variety is cylindrical, round or flattened in section, and is certainly intended for hand use only. Their use is probably akin to that of the chisel or adze. Many of the gad-shaped axes are remarkable for the large amount of work which has been devoted to the unground portion; they have been made symmetrical by picking the surface with a hard point. These axes are commonly made of rocks, which assume cylindrical shapes as pebbles in streams.

What are apparently miniature ground axes, but which are used either in the hand or set chisel-wise in a wooden handle are for finer work in cutting, for dressing skins by scraping and scoring incised lines, and for shaving the hair of the head or face.

Next comes the grinding implement comprising mills or kerns, roughly circular in shape, with a spherical hollow (the depth of which depends on the amount of use) or with a flat surface; and much larger, more or less elliptical mills, with one or more elongated hollows. On the obverse side of the circular mills there is frequently a dimple or indentation, which apparently progressed along the grinding hollow on the top; these indentations have been called husking holes, since there is some evidence of their being used for cracking seeds or berries or grinding them into meal. Many of the small mills were probably used for grinding paints for personal decoration.

The upper stones for the circular mills are either spheroidal, with indentations, much like an apple, or are more elongated like a pestle.

In the pounding stones or hammer stones great difficulties are met with in dividing them into classes. Grouped with the pounders and hammers are the anvil or pounded stones. These are especially numerous on the coast, and much resemble those specimens which are in other countries considered to be pierced neolithic implements in the process of making.

Rounded stones, up to a foot across, are frequently found in camps. The observer, if he visits Bellambi Beach, can still see many of those particular discoid stones lying about in the windswept sand dunes. They show no signs of grinding or chipping, but were in use for basket weaving, and as fire stones.

One exhibit depicts the whole range of stone implements found in a particular locality; the appearance of one type predominant is often noticeable. It is considered that these peculiarities are simply and solely due to the character of the stone most readily available on the site.

The Morna Point group is distinguished by the predominance of the massive chopper. It will be noticed that porphyry is the chief material worked and is available at this workshop in great quantities. The few artifacts of chert were probably obtained from Merewether by barter.

In the same way the collections from Quibray and Murramurang each present a dominating local form

KEITH KENNEDY COLLECTION

SECTION 1.—OBJECTS ASSOCIATED WITH PRIMITIVE DANCING

Amongst primitive peoples the dance plays an important part in social organisation, entering much more into their life than it does with us. Probably the earliest record we have of the dance is a painting on the wall of Les Trois Freres cave in Southern France. It was done approximately 12,000 years ago by a caveman of the Magdelenian period of culture, and depicts a man dressed in animal skins and wearing antlers on his head. He appears to be prancing around, evidently dancing a kind of deer dance as is done at the present day by the Indians of New Mexico and Arizona during certain ceremonies to increase animal life.

There are many kinds of dances, but all can be classified into three main groups :— sacred, secular, and martial.

SACRED DANCES

Sacred dances also include those connected with magic, for primitive religions and magic are often intimately associated with each other. Because of this the list of exhibits below contains objects of magic as well as those associated with religion. Religious dancers are, as a rule, not supplicatory, but are an effort of the dancers to bend the powers of the unseen to their will. In New Mexico I have seen the inhabitants of a pueblo dance all day in order, by their concerted will, to cause the "wokonda," an invisible power that permeates all nature, to concentrate in and ripen the green corn growing in their irrigated gardens. The dancers were divided into two groups, and they were careful that before one group had stopped dancing the other had commenced, so as to preserve continuity and not break the spell.

SECULAR DANCES

Secular dances are for amusement, exercise and education. By gesture and rythm they portray topical incidents, and events that have happened in the past history of the tribe, or the performers may describe the habits of some animal. The ordinary "play-about" corroboree of the Australian Aborigines is a good example of this type of dance, for it consists of a series of short incidents such as "Two men fighting over a gin," "Galah parrots picking up nut grass," "A dog fight," etc.

MARTIAL DANCES

Martial dances include those performed before setting out for a fight or a raid, those danced in the presence of the enemy, and celebrations on returning. They serve the purposes of stirring up the courage of the warriors, and of striking fear into the foe. Another very important function of them is to correlate the movements of the fighters, and so create a certain amount of concerted action and discipline.

WEAPONS

Weapons are often used as part of primitive dance regalia, and play their part in religious and secular as well as martial dances. Some weapons have become specialized for the dance only, as in the case of the Santa Cruz Island dance-club, and the Zulu dance-shield. The latter in its original size was found to be too large for dancing with as it concealed the movements of the warriors, so a miniature shield was devised and used exclusively for the dance.—Keith Kennedy.

WESTERN AUSTRALIA

1. **SIX SACRED BOARDS (Churinga).**
   The sacred regalia of a horde near the Upper Murchison River. Totemic designs carved on with stone tools. Chanted over during certain ceremonies.
   Meekatharra.

2. **THREE SACRED BULL-ROARERS.**
   Found with the six sacred boards mentioned above. A rare bat-shaped form. Totemic designs carved on with stone tools. Swung around to make a buzzing sound during certain ceremonies.
   Meekatharra.

3. **SACRED BOARD (Churinga).**
   Beria (Lancefield).

4. **SACRED BOARD (Churinga).**
   Originally a bull-roarer, the string hole has been stopped up with gum, converting it into a churinga.
   Beria (Lancefield).

5. **NOSE PIN.**
   Worn thrust through the pierced septum of the nose. Made of wild turkey (bustard) bone.
   Laverton.

6. **NOSE PIN.**
Ends filled in with gum.
Laverton.

7. **NOSE PIN.**
Probably was originally a wooden "death pointer." It seems to have been converted into a nose pin.
Laverton.

8. **NOSE PIN.**
Also worn stuck in the hair. Native name is "Ealkira."

9. **MESSAGE STICK.**
Incised with symbols. Used to call members of the tribe together for corroborees, etc.
Meekatharra.

10. **MESSAGE STICK.**
A large specimen.
Boulder City.

11. **DEATH POINTER.**
The operator points the implement in the direction of the person he desires to kill, and "sings" him: i.e., chants an invocation. When the person knows he has been "pointed" and "sung" he dies by auto-suggestion.
Laverton.

12. **DEATH POINTER.**
With pieces of down attached to gum at proximal end.
Laverton.

13. **DEATH POINTER.**
Meekatharra.

14. **CUTTING IMPLEMENT.**
Called "dabba." Flakes of siliceous stone attached to wooden handle with gum.

15. **SPEAR.**
Barbed with flakes of siliceous stone set in gum. Similar to the so-called "death spear" of New South Wales.

16. **WOMERA.**
An implement for hurling spears with. This specimen was found with edge broken at the scene of a fight.
Laverton.

17. **WOMERA OR SPEAR-THROWER.**
Kellerberrin.

18. **BOOMERANG.**
Called Kylie in W.A.
Kellerberrin.

19. **BOOMERANG OR KYLIE.**
Yalgoo.

20. **DOWAK.**
A striking and throwing club.
Yalgoo.

21. **FOUR DOWAKS.**
Laverton.

22. **DOWAK.**
Kellerberrin.

23. **DOWAK.**
Shafted with gum for insertion of a flake of siliceous stone, so that the implement can be used as an adze.
Kalgoorlie.

24. **SHIELD.**
Yalgoo.

25. **CEREMONIAL YAM STICK.**
Dotted with black spots, probably for magical purpose.
Queensland

QUEENSLAND

26. **NECKLACE.**
Segments of grass strung together.
Ingham, N.Q.

27. **SHIELD.**
Made from the buttress root of a species of fig tree. Painted with individual designs.
Atherton, N.Q.

28. **WOODEN SWORD.**
Always associated with the big painted shields of the "scrub" blacks.
Atherton, N.Q.

29. **SHIELD.**
N.Q.

30. **SPEAR.**
Barbed with sting-ray spines.
Port Douglas, N.Q.

31. **SPEAR.**
Single barb of bone gummed and bound on with sinew.
Cape York Peninsula.

32. **SMALL SPEAR.**
Unbarbed fore-shaft of heavy wood.
Cape York Peninsula.

33. **SPEAR.**
Barbed with single piece of bone gummed and bound on.
Cape York Peninsula .

34. **WOMERA (SPEAR THROWER).**
Ingham, N.Q.

35. **WOMERA.**
A rare boomerang-shaped variety used for projecting spears at fish. Found only on the Bloomfield River, N.Q.

36. **WOMERA.**
With pieces of melo shell gummed to handle as an ornament.
Cooktown, N.Q.

37. **NULLA-NULLA (CLUB).**
Clermont, C.Q.

38. **NULLA-NULLA.**
Made of gidgee wood. Obtained from one of the Mt. Enniskillen blacks.
Blackall, C.Q.

39. **NULLA-NULLA.**
With two prongs.
C.Q.

40. **NULLA-NULLA.**
With prongs. Native name is "Miro."
Mackay District, N.Q.

41. **NULLA-NULLA.**
"Pine-apple" head. Native name, "Mattima."
Mackay District, N.Q.

42. **NULLA-NULLA.**
Phallus headed.
N.Q.

43. **NULLA-NULLA.**
Paddle shaped.
N.Q.

44. **BOOMERANG.**
Nelson (Mulgrave).
N.Q.

45. **BOOMERANG.**
Pointed at both ends, for fighting.
Clermont, C.Q.

46. **NATIVE CLOTH.**
Made of bark.
Cairns District, N.Q.

47. **BASKET.**
Made from strips of lawyer palm.
Ingham, N.Q.

48. **BASKET.**
Made from strips of lawyer palm.
Townsville District, N.Q.

NORTH AUSTRALIA

49. **SACRED BOARD (Churinga).**
Human figures painted on one side, turtle and snake on the other. Spotted with white pipe-clay.

50. **SACRED BOARD (Churinga).**
Painted with ochre and pipe-clay.

51. **ORNAMENT.**
Forehead and breast ornament made of incisor teeth of the kangaroo set in gum.

52. **HEAD BAND.**
Fillet or head band of woven native cloth painted with red ochre and pipe-clay.

53. **CORROBOREE CHARM.**

54. **BELT OF HUMAN HAIR.**

55. **ARMLETS.**
Made of pandanus leaf fibre.
Adelaide River.

56. **ARMLETS.**
Made of interlaced cane.

57. **NECKLET.**
Native string covered with clay and colored red.

58. **HEAD ORNAMENT.**
Bunch of pink feathers attached by gum to bone spike.

59. **HEAD BAND.**
Red ochre design of two crocodiles.

60. **STRING NECKLACE.**
Made of native string.

61. **CARVED BAOBAB NUT.**
Incised designs of two emus, a fish, a grub, yam, trepang, etc.

62. **SPEAR.**
Carved head, bamboo shaft.

63. **SPEAR.**
Heavy variety with fluted shaft and spatulate point.

64. **SPEAR.**
Carved barb head, bamboo shaft.

65. **SPEAR.**
Carved head.

66. **SPEAR .**
Pointed with spines from the sting-ray. Bamboo shaft.

67. **WOMERA.**
Painted for a corroboree.

68. **SWORD CLUB.**
Called a Meyarrol.
Coburg Peninsula.

69. **SPEAR.**
Pointed with a bunch of sting-ray. spines.
Central Australia.

70. **DEATH POINTER.**
Made of bone, with string of human hair attached.

71. **BOOMERANG.**
Beaked variety.

72. **SPEAR.**
Flattened point, with single barb of wood bound on.

SOUTH AUSTRALIA

73. **NULLA-NULLA.**
Coorong District.

VICTORIA

74. **NULLA-NULLA.**
With flattened head.

75. **NULLA-NULLA.**

NEW SOUTH WALES

76. **CURVED NULLA-NULLA.**
With incised ornamentation.
Western District.

77. **NULLA-NULLA.**
Curved variety.
Western District.

78. **LIL-LIL.**
A variant of the boomerang.

79. **YAM STICK.**
The digging implement of aboriginal women. Sometimes held by a man impersonating a woman during a corroboree.

80. **NULLA-NULLA.**
Head and handle decorated with burnt-in lines.

81. **NULLA-NULLA.**
Knobbed. Made of dark heavy wood.

NEW ZEALAND

82. **DANCING DRESS.**
Made of prepared flax.
The Bluff.

83. **HEAD ORNAMENT.**
Made of flax leaf. Worn during feasts and dances and thrown away after use.
Rotorua.

84. **HEAD ORNAMENT.**
Rotorua.

85. **FOOD BASKET.**
Made of green flax and thrown away after the feast.
Whakarewarewa.

— **FOOD BASKET.**
Matata.

86. **BASKET.**
Made of raupo.
Rotorua.

87. **BASKET.**
Made of flax (Phormium Tenax).
Taneatua.

88 **TEWHA-TEWHA.**
A weapon used exclusively by men of high rank. Waved in the air to keep the time during the "haka," or dance.

FIJI

89. **HEAD ORNAMENT.**
Made of Woi-woi (Pandanus leaf), colored pink.
Savu Savu, Vanua Levu.

90. **NECKLACE.**
Made of seeds strung together.
Suva.

91. **BAG.**
Made of threaded seeds.
Suva.

92. **YANGONA BOWL.**
In which is mixed yangona (kava) for ceremonial drinking.
Vanua Levu.

93. **COCONUT-SHELL CUP.**
Called Mbilo. Used for ceremonial yangona drinking.
Levuka, Ovalau.

94. **COCONUT-SHELL CUP (MBILO).**
Nangingi, Vanua Levu.

95. **TAMBAKAU (FOOD TRAY).**
Woven coconut leaf. Used for carrying food at feasts.
Nangingi, Vanua Levu.

96. **SHALLOW DISH.**
For holding oil to annoint the bodies of the dancers.
Levuka, Ovalau.

97. **WHALE TOOTH.**
Called a Tambua. Worn as an ornament. Often given as a present when requesting some favor.
Suva.

98. **DANCE CLUB.**
Brandished during the Meke (dance). Presented by the Mbuli of Naweni.
Vanua Levu.

99. **POLE CLUB (Small Specimen).**
Held by men of high rank during orations at feasts, etc.
Levuka.

100. **MISSLE CLUB (Small Specimen).**
Called Ula.
Viti Levu.

101. **MISSLE CLUB (Large Specimen).**
Called Ula.
Viti Levu.

102. **CLUB.**
A form resembling the pine-apple club.
Suva.

103. **CLUB.**
A variety of the "lipped" club.
Suva.

104. **WAR CLUB.**
Used during the war dance. Made from the stem and root of the Nokonoko (Casuarina).

105. **FAN.**
Made of plaited coconut leaf.
Naweni, Vanua Levu.

106. **FAN.**
With red woollen border. Wool obtained from the traders.
Drominunuku, Vanua Levu.

107. **FAN.**
Wino, Vanua Levu.

108. **NGATU (Tappa Cloth).**
Made from the pounded inner bark of a tree. (Broussonetia papyrifera).
Maravu, Vanua Levu.

109. **NGATU (Tappa Cloth).**
Maravu, Vanua Levu.

110. **NGATU (Tappa Cloth).**

111. **MAT.**
Made of pandanus leaf.
Maravu, Vanua Levu.

112. **MAT.**
Made of pandanus leaf.
Levuka.

TONGA AND SAMOA

113. **BOW.**
Made of Mangrove wood.
Tonga.

115 **TAPA CLOTH.**
Samoa.

116. **CLUB.**
Coconut-stalk type, called lapa-lapa.
Samoa.

114. **MAT.**
One border fringed with red feathers
Samoa.

117. **CLUB.**
Apia, Samoa.

118 **CLUB.**
Apia, Somoa.

SOLOMON ISLANDS

119. **BANGLE.**
Made from a section of clam shell; worn on the upper arm.

120. **CLAM-SHELL BANGLE.**

121. **CLAM-SHELL BANGLE.**

122. **ARMLET.**
Woven fibre with decorations of shell money.

123 **CLUB.**
Paddle-shaped. Human figure carved on handle.
San Cristoval.

124. **WICKERWORK SHIELD.**
New Georgia.

125. **CLUB.**
With ribbed blade.

126 **CEREMONIAL PADDLE.**
Carved with human, bird, and lizard motives.
Buka.

127 **CEREMONIAL PADDLE.**
Buka.

OTHER PACIFIC ISLANDS

128. **KAHULI SHELLS.**
Shells of a tree snail gathered in forest country near the Pali. The Hawaiians have a tradition that these shells sometimes sing like a cricket.
Oahu, Hawaii.

129. **BELT.**
Woven from Banana-leaf fibre.
Caroline Is.

130. **CLUB.**
Ribbed blade; handle bound with sinnet.
Niue Is.

131. **LONG WOODEN SWORD.**
Niue Is.

132. **SHARK TOOTH WEAPON.**
Gilbert Is.

133. **BELT.**
Made of bark, ornamented with designs in black, red, yellow, and brown.
Santa Cruz Is.

134. **DANCE CLUB.**
Carried during dances.
Santa Cruz Is.

135. **CLUB.**
New Caledonia.

136. **SPEAR.**
A light javelin thrown by means of the "ounep," a spear thrower of cord.
New Caledonia.

137. **BANGLE.**
Made of boar tusk.
New Hebrides.

138. **BOAR TUSK ORNAMENT.**
New Hebrides.

139. **CLUB.**
With fibre rope for carrying on shoulder.
New Hebrides.

PAPUA

140. **CEREMONIAL TABLET.**
Called Gopi in Eastern Papua and Kwoi on the Purari Delta.
Gulf of Papua.

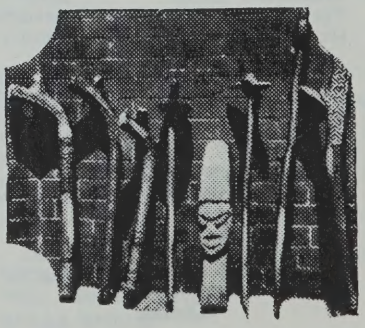
141. **CEREMONIAL TABLET.**
Gulf of Papua.

142. **BANGLE.**
Made from Conus shell.

143. **ARMLET.**
A length of interwoven split cane.
Fly River.

144. **NECKLET.**

145. **BANGLE.**



146. **BAU BAU.**
A smoke pipe of bamboo. Sometimes tapped with the fingers to accompany singing.
Eastern Papua.

147. **WOODEN SWORD.**
Designs infilled with lime.
Eastern Papua.

148. **CLUB.**
Stone head, disc shaped.

149. **STONE-HEADED CLUB.**
Spherical head.

150. **STONE-HEADED CLUB.**
Pine-apple variety; flanged.

151. **STONE-HEADED CLUB.**
Handle decorated with basketwork.

152. **WOODEN SWORD.**
Incised ornamentation, inlaid with lime.
Trobriand Is.

153. **WOODEN SWORD.**

154. **WOODEN SWORD.**
Eastern Papua.
Carved blade, infilled with lime.
Trobriand Is.

MANDATED TERRITORY

155. **WOODEN SWORD.**
Made of palm wood. Designs infilled with lime.

156. **BANGLE.**
Section of Trochus shell incised with designs.
Admiralty Is.

157. **SPEAR.**
Head of Obsidian (volcanic glass), set in a socket ornamented with "Job's tear" seeds.
Admiralty Is.

158. **SPEAR.**
Head of Obsidian (volcanic glass).
Admiralty Is.

SOUTH AFRICA

159. **BANGLE.**
Made of woven wire.
Empangeni, Zululand.

160. **BANGLE.**
Woven wire and glass beads.
Zululand.

161. **BANGLE.**
Brass beads and thin wire.
Zululand.

162. **DANCE SHIELD.**
Small shield made of ox-hide. Held while dancing.
Eshowe, Zululand.

163. **ASSEGAI.**
Broad-bladed variety.
Eshowe, Zululand.

164. **ASSEGAI.**
Small-bladed variety.
Zululand.

165. **KNOB KERRY.**
Called an Induku. Obtained from a Zulu at Greytown, Natal.

166. **FLY WHISK.**
Made from tail of the Ngu. Handle of woven wire.
Zululand.

167. **WIRE BANGLE.**
Natal.

168. **BANGLE.**
Small strung beads twisted around stout fibre string.
Natal.

169. **NECKLET OF ANTELOPE HORNS.**
Natal.

170. **BEADED SNUFF BOX.**
Natal.

171. **NECKLET.**
Natal.

172. **HEAVY BEAD NECKLACE.**
Natal.

173. **HEAVY BEADED BELT.**
Natal.

174. **BEADED NECK ORNAMENT.**
Pondoland, C.P.

175. **BANGLE.**
Of twisted wire.
Pondoland, C.P.

176. **BEADED GOURD.**
Transkei District, C.P.

177. **BEADED TIN.**
Transkei District.

178. **BEAD BAG.**
King Williams Town, Cape Province.

179. **STICK.**
Knob of gum ornamented with "crab's eye" seeds.
King Williams Town, C.P.

180. **BEADED STICK.**
King Williams Town, C.P.

181. **BEADED GOURD.**
King Williams Town, C.P.

182. **KNOB KERRY.**
Klerksdorp, Transvaal.

183. **LIGHT KNOB KERRY.**
Klerksdorp, Transvaal.

184. **KNOB KERRY.**
Studded with brass nails.
Transvaal.

185. **WIRE BANGLE.**
Mafeking, British Bechuanaland.

186. **MODEL OF GIRAFFE.**
Seruli, British Bechuanaland.

RHODESIA

187. **ASSEGAI.**
With barbed head.

188. **ASSEGAI.**
Leaf-shaped head with serrated barbs.

189. **AXE.**
Pennhalonga.
British Manicaland.

NORTH AMERICA

190. IMAGE OF A RAIN GOD.
Made of pottery by Pueblo Indians.
Teseuque, New Mexico.

191. SMOKE BLOWER.
Ceremonial smoke blower, made of pottery. A glowing ember is first inserted, then the tobacco or sometimes red willow bark. The smoke is blown outwards as incense to the spirit powers.
Santa Fe, New Mexico.

192. SMALL BLANKET.
Woven by Navajo Indians from raw wool.
Arizona.

193. SMALL BLANKET.
Woven by Zapotec Indians near the border of Yucatan.
Mexico.

KEITH KENNEDY COLLECTION

SECTION 2—PRIMITIVE INSTRUMENTS OF MUSIC

Instruments of music can be classified into four groups, as follow:—

1. **INSTRUMENTS OF PERCUSSION,** in which the tone is produced by striking. EXAMPLES: Drums and marimbas.
2. **INSTRUMENTS OF FRICTION,** which are rubbed to make them sound. EXAMPLES: Musical rasp of New Mexico and Nu-nut of New Ireland.
3. **WIND INSTRUMENTS,** in which the sound is caused by a rapidly-vibrating column of air. EXAMPLES: Polynesian nose-flute, New Mexican flageolet.
4. **STRINGED INSTRUMENTS,** whose sound is elicited from a rapidly-vibrating string or strings. EXAMPLES: Chinese lute (pi-pa), African musical bow, and Chinese uhr-heen. (The latter is played with a horse-hair bow, so it can also be classified as an instrument of friction.)

When and where instruments of music were first invented by primitive man it is impossible to say, although many races have legends to account for some particular instrument as, for instance, the ancient Greek myth relating how the god Pan made the syrinx from a reed that was formerly a nymph of the same name; and the South-east Papua legend of how the drums came to Wagawaga.

Away back in the beginning of human affairs savage man may have struck his resounding chest, as does the gorilla at the present day, and so got the idea for a drum. Also, implements and weapons may have been struck together. Instruments of friction could evolve by the implements and weapons being rubbed together instead of struck.

A wind instrument would be suggested by the sound accidentally produced while idly blowing across a broken-off piece of hollow reed or bone, and the first stringed instrument may have been suggested by the musical twang of the archers' bow.

From these simple beginnings our modern instruments of music arose, to culminate in the grand organ and the symphony orchestra.

AUSTRALIAN ABORIGINAL

194. DIDGERIDOO.
Made of hollowed bamboo. Sometimes called a drone-pipe or aboriginal trumpet. Is actually a speaking trumpet for the performer intones through it.
North Australia.

195. ILLPIRRA.
Small form of didgeridoo, made from a hollow cylinder of wood, painted with red ochre.
Hermannsburg, Central Australia.

196. **PRONGED SOUNDING-STICK.**
A primitive kind of tuning-fork; struck by the aborigines during chants and corroborees.
Northern Central Australia.

197. **SOUNDING BOOMERANGS.**
Clicked together to keep time for corroborees.
West Australia.

198. **HUMMING TOP.**
Made from a small gourd, perforated to make it hum when spun. The spinning is always done on a piece of bark cloth to prevent the gourd from becoming broken.
Atherton, North Queensland.

199. **SACRED BULL-ROARER.**
Incised with esoteric symbols. Swung round on the end of a cord during certain ceremonies, the buzzing sound so produced is supposed to be the voice of a deity. Bull-roarers are considered very sacred, and are not allowed to be seen by the aboriginal women or uninitiated men.
Broome, West Australia.

200. **SACRED BULL-ROARER.**
A very rare, bat-shaped form. Incised with esoteric symbols.
Meekatharra, West Australia.

201. **CHURINGA, OR SACRED TOTEM BOARD.**
Made from a bull-roarer by stopping up the hole near the end with gum.
Laverton, West Australia.

NEW GUINEA

202. **DRUM.**
Carved with bird motive.
Trobriand Island, Papua.

203. **DRUM.**
Lizard-skin tympanum, held on by a ring of interlaced, split cane, covered with European cloth.
Fly River, Papua.

204. **RATTLE.**
Made of dry seeds. Worn during dances.
Papua.

205. **RATTLE.**
made of grass stems and seeds.
Papua.

206. **BAU-BAU.**
Papuan smoke pipe, played as improvised miniature drum by tapping with the fingers.
Papua.

207. **GIANT-SIZED RATTLE.**
Six feet in length. Made of basketwork of interlaced split cane.
Mandated Territory, New Guinea.

208. **BULL-ROARER.**
Incised ornamentation inlaid with lime.
Mandated Territory, New Guinea.

209. **NU-NUT.**
A friction drum. The player holds it between his knees and draws his resin-covered hand along the top, producing three notes.
New Ireland.

210. **DRUM.**
Called by the natives a "kundu."
New Ireland.

211. **SHELL TRUMPET.**
Called a "tarwul." This type of shell trumpet originated in New Britain, and is now general throughout the Mandated Territory.
New Britain.

SOLOMON ISLANDS

212. **PAN-PIPES.**
Six hollow tubes of bamboo, bound together wth split cane. Similar to the pan-pipes of ancient Greece.
Bougainville Island.

FOUR COCONUT SHELL WHISTLES,
pierced to give different notes.

213. **WHIRLER.**
Perforated hollow nut with string attached. It is whirled around to make a whistling noise.

214. **RATTLE.**
From the island of San Christoval. Made of seed pods.

215. **RATTLE.**
Made of conus and olive shells strung together.

FIJI ISLANDS

216. **LALI.**
Gong made from piece of resonant wood hollowed out in the centre. Used for accompanying singing.
Viti Levu.

217. **LALI.**
Same as above.
Viti Levu.

218. **SHELL TRUMPET.**
Called a "Ndavui." Triton shell with hole bored in the side, so is blown laterally Used for signalling.
Viti Levu.

219. **SHELL TRUMPET.**
The hole is bored in the apex of the shell, so the instrument is blown apically.
Viti Levu.

NEW ZEALAND

220. **FLUTE.**
Made of human bone. Called a "Koauau." Played by breathing into the embouchure. It is, therefore, a nose flute.
Rotorua.

221. **FLUTE.**
Called a "Koauau." Made of wood carved with conventional designs. It is sounded by blowing across the rim at one end, so is, therefore, a vertical flute.
Hawkes Bay.

222. **SHELL TRUMPET.**
Called a "Pu-moana" (sea trumpet). Has a wooden mouth-piece carved and inlaid with pawa-shell.
North Cape.

223. **POI BALLS.**
Balls of raupo with flax strings, spun around in rhythm to certain songs and sitting dances.
Rotorua.

SANTA CRUZ ISLAND

229. **DANCE CLUB.**
Painted with designs and "dressed" for ceremonial dances.

EAST INDIES

230. **SESANDO.**
Stringed instrument with sounding box of palm leaf.
Timor.

231. **BAMBOO "HARP."**
Large stem of bamboo with strips slit from its skin and raised to act as "strings."
Sarawak, Borneo.

TONGA

224. **FLUTE.**
Made from a length of Polynesian bamboo. Played by breathing into the embouchure at end. A nose flute.
Nukualofa, Tongatabu.

HAWAII

225. **UKEKE.**
A musical bow, consisting of a strip of bamboo with its ends joined by three strings. Played by holding the bow near the open mouth and rubbing the strings with a little pad of tapa cloth.
Hilo.

226. **PU-ILI.**
An instrument of percussion made from a length of bamboo slit up into a number of fine strips. While singing in chorus it is waved around and struck to keep the time.
Hilo.

227. **STEEL GUITAR.**
A flat form, introduced (like all other guitars) into Hawaii by the Europeans.
Honolulu.

228. **UKULELE.**
Honolulu.

CEYLON

232. **RAVANASTRON.**
A small violin made from the shell of a coconut covered with membrane and colored paper. Similar to the instruments supposed to have been invented 7000 years ago by a King of Ceylon called Ravana, and named after him, the Ravanastron.
Colombo.

233. **SNAKE CHARMER.**
A hollow gourd with mouthpiece and drone-pipe attached. Used for charming snakes.
Colombo.

AFRICA

234. **MARIMBA.**
A wooden frame with bars of resonant wood arranged in a heptatonic untempered scale. Played by striking with two sticks with knobs of hard gum.
Rhodesia.

235. **ZANZE.**
Sometimes called a "Kaffir musical-box." Strips of native forged iron fixed on a wooden sounding-board. Played by holding in both hands and twanging with the thumbs.
Rhodesia.

236. **IVORY TRUMPET.**
Made from the tusk of an elephant. The mouth-piece is carved on the side, so the instrument is blown laterally.
Rhodesia.

237. **BOW HARP.**
The prototype of all stringed instruments. Played by holding centre-piece of the bow between the teeth and flicking the string with the thumb-nail.
Karoo District, Cape Province.

238. **BOW HARP.**
With gourd resonator attached. Played by striking the string with a piece of elephant grass. A favorite instrument of the Zulu girls, who tinkle it to pass the time during the long walks when paying visits to other kraals.
Eshowe, Zululand.

239. **OURA.**
Played by the Basuto shepherds while minding their flocks. The sound is produced by blowing on the piece of ostrich quill fixed to one end and to which the string is tied.
Maseru, Basutoland.

AMERICA

240. WHISTLE.
With four notes. Made of cedar wood. Used for magical purposes.
British Columbia.

241. RATTLE.
From the Haida Indians of Queen Charlotte Sound. Ornately carved with thunderbird, raven, frog, and human figure, illustrating an Indian myth.
British Columbia.

242. FLAGEOLET.
The pueblo form. The so-called Indian "flute," famed in Indian legend and song.
Santa Fe, New Mexico.

243. WHISTLE.
Bird-bone whistle blown during the annual ceremony to the sun.
New Mexico.

244. MUSICAL RASP.
A piece of wood with notches cut along one side; across this a stick is scraped to make rsping sound. Used to keep time for certain Kachina dances.
New Mexico.

245. RAIN DRUM.
Tambourine shape, with prayer to the powers of Nature asking for rain painted on the tympanum. The prayer is sent out by beating the drum.
Tesuque, New Mexico.

246. TAMBOURINE DRUM.
Illinois.

247. RATTLE.
Used by the medicine men. Sometimes called a "devil-chaser" because it is shaken to scare evil spirits away. Made of membrane and painted with symbols.
White Mountain, Apache.

248. DANCE RATTLE.
Shaken during the green corn dance to compel the "wokonda," or universal life principle of Nature, to enter the corn and ripen it. Made from a gourd and painted with symbols.
Jamez, New Mexico.

249. FLAGEOLET.
Made of pottery; called a "Pito." Often mentioned in ancient Mexican legends.
Mexico.

250. WHISTLES.
Several pottery whistle made in the shape of animals.
Mexico.

251. DANCE RATTLE.
Small form, made of basket-ware.
Mexico.

CHINA

252. PI-PA.
A Chinese lute, with flat body and carving of a bat on the head. Strips of metal are fixed inside to make a jangling sound when the instrument is shaken.

253. YUE-KIN.
Moon guitar. Circular in outline. Fretted, and with four silk strings tuned in pairs one-fifth apart.

254. FLUTE.
Made of bamboo, with finger-holes cut in an elliptical shape. Near the embouchure is a hole with a piece of tissue-paper pasted over it to give a nasal quality to the tone.

255. UHR-HEEN.
Its body is a hollow cylinder of bamboo covered at one end with snake-skin. Has two strings tuned one-fifth apart. The hair of the bow passes between the strings, so the bow is permanently attached to the instrument.

256. SO-NA.
Wind instrument with a double reed; often termed the "Chinese oboe." Introduced into China about 2000 years ago by Buddhist monks from India.

JAPAN

257. FLUTE.
Made of bamboo. Elliptical finger holes.

EUROPE

258. LUTE.
Armenian form called "Ood." Similar to the form introduced into Europe by the Saracens.

259. BALALAIKA.
A favorite instrument of the Russian peasants. Triangular body. Three strings, two tuned in unison, the other one-fourth higher.

260. OLD COACH HORN.
Blown during pageants and for military purposes during the Middle Ages. Later were blown on coaches to announce their arrival.

261. VIOL-DA-GAMBA.
By John Baker, Oxford, 1688. The original curved sound holes have been filled in and modern ones cut. This specimen is similar to one by the same maker exhibited in the Victoria and Albert Museum, South Kensington, London.

262. ANTIQUE VIOLIN.
With waxed ribs and other ornamentation. Probably made by a first-class maker of the Cremona school for some ceremony or ducal court.

263. OLD VIOLIN BOW.
Dodd period.

Mrs. ELIZABETH KENNEDY EXHIBITS

264. Collection of aboriginal stone implements excavated from a rock-shelter near Brown's Bay, Pittwater, New South Wales.

265. Framed exhibit of Ancient Egyptian necklace, scarab, and Arabic coin (Sassanian period).

Mrs. BERTHA F. KENNEDY COLLECTION

266. **TAPA CLOTH. Samoa.**
267. **TAPA CLOTH. Fiji.**
268. **MAT** of Pandanus leaf. **Fiji.**
269. **MAT** of pandanum leaf. . **Fiji.**
270. **Pandanus leaf MAT**, with fringed edge. **Fiji.**
271. **BASKET. Fiji.**
272. **FAN. Fiji.**
273. **FAN. Fiji.**
274. **FAN.** Made from the inner skin of the
275. Specimens of Pueblo Indian Pottery Work. **New Mexico.**
Polynesian bamboo. **Hilo, Hawaii.**

276. EXHIBIT OF TOOLS OF THE STONE AGE—ROBERT TURNER, F.R.A.I.

Before the coming of the white race to this country the natives were living in a Stone Age, similar, in most respects, to that of the Stone Age man of Europe.

The stone tools of the Aborigines are usually classified under five headings: (1) Ground implements. (2) Cutting implements produced by flaking or chipping. (3) Scraping implements produced by flaking. (4) Grinding and pounding implements; and (5) Sacred and ceremonial stones.

The first class, i.e., ground tools, are the nearest approach to the Neolithic implements to be found here. These are mainly axes, but they are seldom polished, as are the ones found in Europe.

Cutting tools of various shapes were used by the natives for a great many purposes. The sharp-edged implements, such as the "lancets," were for blood-letting, and other minor surgical operations.

The scrapers are what their name implies, they are employed for various uses and in a variety of ways. A native will use upwards of twenty or thirty in the production of a single boomerang.

This collection of stone implements shows almost every type of tool used by the Aborigines of N.S.W., from the crude scraper to the ground axe. It contains a number of pigmy implements, none of which are over 15 mm. in length.

For comparison a few stone implements from Victoria, Tasmania, Queensland, South, Central and Northern Australia are included.

That the aborigine did not reach the highest stage of stone culture will be seen from the stone axes and adzes from New Zealand and New Guinea, as well as the stone arrow heads from America which are shown with this collection.

One feature is a section devoted to implements made from silicified wood, together with a section through a tree showing the annular rings and the bark of the tree.

EXHIBIT BY K. G. GODDARD, NICHOLSON STATION, N. AUSTRALIA.

277. **DRINKING VESSEL MADE FROM A SKULL.**
278. **NAPPA-URRA—RAINSTONES.**
Jaro Tribe.
279. **QUIBUTTA—BULLROARER.**
Used in Circumscision Ceremony, Jaro Tribe.
280. **MILLI MILLI—MESSAGE STICKS.**
Sent out to neighboring tribes to attend Circumscision Ceremony, Jaro Tribe.
281. **MEETA—FIGHTING SHIELDS.**
Jaro Tribe.
282. **BUNDY WANDY—PUBIC COVERS.**
Made from Wallaby fur. Jaro Tribe.
283. **BUNDY WANDY—PUBIC COVERS.**
Made from Opossum fur. Jaro Tribe.
284 **BUNDY WANDY—PUBIC COVERS.**
Made from Kangaroo fur. Jaro Tribe.
285. **YELKA—STONE SPEAR HEADS.**
Jaro Tribe.
286. **WILGEE — HOOKED FIGHTING BOOMERANG.**
Jaro Tribe
287. **BUNDY WANDY—PUBIC COVERS.**
Pearl shell form, traded to Jaro Tribe from Glenelg River Tribe, North-West Australia.
288. **PINGANGA—MESSENGER'S CHARM OR PASS.**
Pearl shell form, used by Glenelg River Tribe when passing through other tribal territory to attend corroborees.
289. **MEETA—SMALL CARVED FIGHTING SHIELD.**
Billiluna Tribe.
290. **KULLIMBEE.**
With human hair string attached. Tanami Tribe.
291. **WOLMAI.**
Large woomera used in spear throwing. Jaro Tribe.
292. **PIGAREE.**
Small woomera. Jaro Tribe.
293. **CUNDY.**
Spear heads made by pressure work from glass. Jaro Tribe.

294. **DILLY BAGS.**
Made from wool drawn from blankets. Jaro Tribe.

295. **SKULL OF A JARO HEADMAN.**

296. **POINTING OR DEATH-BONE.**
Human bone covered with wool from issue blankets. Gninning Tribe.

297 **YELKIE—STONE KNIVES.**
Jaro Tribe.

298. **CHURUNGAREE.**
Fighting Boomerangs. Jaro Tribe.

299. **DJAPPAN.**
Large carved Bullroarer. Jaro Tribe.

300. **JINKIE — CARVED CEREMONIAL STICK.**
Jaro Tribe.

301. **MOOLAKAN.**
Large SPEAR HEADS made from glass (acid jars). Jaro Tribe.

302. **MUNDUK.**
Whirler made from conicaberry. Gninning Tribe.

303. **JINKIE — CARVED CEREMONIAL BONE.**
(Linga) snake. Gninning Tribe. POISON POINT.

304. **JINKIE — CARVED CEREMONIAL BONE.**
(Clouds and Rain). Gninning Tribe. POISON POINT.

305. **JINKIE — CARVED CEREMONIAL BONE.**
(Cobwebs and Snake), Star Ceremony, Gninning Tribe. POISON POINT.

306 **JINKIE — CARVED PORCUPINE BONE.**
Gninning Tribe. POISON POINT.

307. **JINKIE — CARVED HUMAN RIB BONE.**
Gninning Tribe. POISON POINT.

308. **JINKIE—CARVED EMU BONE.**
Gninning Tribe. POISON POINT.

309. **JINKIE — CARVED CEREMONIAL BONE.**
Used in Star Ceremony, Gninning Tribe.

310. **CURLWORL.**
Or Rain Bull's Egg. Carried by the Rainmaker of the Gninning Tribe, supposed to produce rain when placed in a dried-up creek bed.

F. G. GODDARD EXHIBITS

311. **MESSAGE STICK.**
Sepik River, New Guinea.

312. **WOODEN SWORD.**
Sepik River, New Guinea.

313. **DUBU DANCING PLATFORM.**
Sepik River, New Guinea.

314. **STONE IMPLEMENT.**
Used in introcision ceremony.
Egelabra Station, Macquarie River, N.S.W.

315. **HUSKING STONE.**
Bogan River, New South Wales.

316 **MALLET.**
Made by an Aboriginal with a Shear Blade.

317. **BURIAL STONES.**
Made of copi. This type, flat on one side, is confined to the Bogan River Tribes of New South Wales.

318. **PHOTOGRAPHS.**
Possum and his wife, Stockman of Yandilla Station, Darling River.

J. R. TYRRELL EXHIBIT

319. **COLLECTION OF PHOTOGRAPHS DEPICTING ABORIGINAL LIFE.**

320. **SHIELD.**
Western Australia.

321. **LARGE BULLROARER WITH STRING OF HUMAN HAIR.**
North Australia.

322. **SMALL BULLROARER.**
Western Australia.

323. **CHURINGA.**
Western Australia.

324. **MOTHER-O'-PEARL PENDANTS ON NATIVE STRING.**
North Australia.

325. **FIRE STICK.**
Western Australia.

326. **WOMERA (SPEAR THROWER).**
North Australia.

327. **SPEAR HEAD MADE BY NATIVE FROM IRON SHEARS.**
North Australia.

328 **WEET-WEET.**
A throwing toy.
Queensland.

329. **SHIELD.**
Queensland.

330. **CHURINGA.**
Central Australia.

331. **HEAD PLUME.**
Made of emu feathers.
Northern Australia.

332. **BELT.**
Made of human hair.
Kimberley District, Western Australia.

333. **CROSS BOOMERANG.**
Thrown for amusement.
North Queensland.

334. **ABORIGINAL "DRESS."**
Queensland.

335. **BARK COOLAMON.**
A water vessel.
North Australia.

336 **CANE BANGLES.**
North Australia.

337. **STRING NECKLETS.**
North Australia.

338. **WOMERA—SPEAR-THROWER.**
North Australia.

339. **WOMERA.**
Central Australia.

340. **BOOMERANG.**
An old stone-cut specimen.
Queensland.

341. **DOWAK—CLUB.**
Western Australia.

342. **SMALL BASKET.**
North Australia.

343. **SHELL NECKLACE.**
North Australia.

344. **SEED NECKLACE.**
North Australia.

345. **ABORIGINAL PLACE NAMES.**

346. **KOROWAI.**
Maori cloak.
New Zealand.

347. **KOROWAI.**
Maori cloak. Made with feathers.
New Zealand.

348. **DILLY BAG (OR BASKET).**
Made of Lawyer Cane.
North Queensland.

349. **COLLECTION OF SOUTH SEA ISLAND PHOTOGRAPHS.**

ERIC RAMSDEN EXHIBIT

350. **TIKI.**
A greenstone ornament worn around the neck. This specimen is from the Waikato District of the North Island, and was at one time in the possession of the Royal Family of Potatau, of which King Koroki is now the head.
New Zealand.

351. **WHAKA HUI.**
Box for keeping hui feathers in. This specimen is a copy of a much older example, and was carved at the Maori School of Arts and Crafts, Rotorua, New Zealand.

H. MACALLISTER EXHIBIT

352 Collection of Ceremonial Objects obtained by missionaries from one of the tribes of Arnheim Land, which has not as yet come into close contact with the white people. These are, naturally, very rare specimens, as they show native work from those parts which have not come under European influences.

Dr. R. W. RICHARDS EXHIBIT

353. **MASSIVE AXE**
Hafted.
Mourilyan District, North Queensland.

354. **FIGHTING BOOMERANGS.**
Central Australia.

A. E. SMITH EXHIBIT

355. **RANAT EK.**
Harmonica of wood. The foundation of music in Siam, Burma, Java, and the East Indian Archipelago generally. Tuned in Siam to a heptatonic or seven note scale of seven equal steps.

356. **SARINDA.**
Musical instrument of India played with a bow, and having nine sympathetic strings.

357. **CHINESE DULCIMER.**
Wire strings struck with little hammer.

358. **CHINESE FIDDLE.**
Played with a bow.

359. **CHINESE MOON GUITAR.**
Called Yue-Kin. Played with a plectrum, or sometimes with the fingernails.

360. **JAVANESE NATIVE INSTRUMENT.**

COLIN SIMPSON EXHIBIT

361. Masks, drums, and other objects of material culture of the Natives of the Torres Strait Islands collected by him during a visit in 1933.

A. E. IVATT EXHIBIT

362. **TWO PALAEOLITHIC ARTIFACTS.**
From gravel beds computed geologically at 100,000 to 120,000 years of age.
Wiltshire, England.

363. **STONE AXE HEAD.**
Polished. Neolithic Period.
Cambridgeshire, England.

364. **STONE AXE HEAD.**
One-half polished. Probably a transition between Palaeolithic and Neolithic Periods.
Suffolk, England.

365. **FOUR FLAKES. Suffolk, England.**

366. **THREE FLAKES. Wiltshire, England.**

367. **TWO STONE KNIVES. Hampshire, England.**

368. **STONE KNIFE. Suffolk, England.**

369. **ROUNDING TOOL. Suffolk, England.**

370. **ROUNDING TOOL. Wiltshire, England.**

371. **FOUR SCRAPERS. Wiltshire, England.**

372. **SCRAPER. Devonshire, England.**

373. **SCRAPER. North Ireland.**

374. **THREE PALAEOLITHIC AXE HEADS. Thebes, Egypt.**

375. **STONE SCRAPER. Thebes, Egypt.**

376. **CHOPPER** (Prehistoric). **Thebes, Egypt.**

377. **LONG FLAKES. Thebes, Egypt.**
(Knives or spear heads.)

378. **FLAYING KNIFE. Thebes, Egypt.**

379. **ROUNDING TOOL. Thebes, Egypt.**

380. **BORER. Thebes, Egypt.**

381. **FOUR SMALL FLAKES. Thebes, Egypt.**
Note.—All the above artifacts from Thebes, Egypt, are prehistoric.

E. J. BRYCE EXHIBIT

382 to 398. Boomerang, fire-stick, womerahs, ceremonial wands, dilly bags from Cape York. Bow and arrows from Solomon Islands, two Japanese swords. Knitted dolls, ivory image from Peru, South America.

Chinese playing cards.

Arabian sling.

Fans and Belt and a collection of photographs of children from South Sea Islands.

Rev. D. H. RETTICK EXHIBIT

399 to 409 Thirty pieces of Australian Aboriginal Culture.

M. S. STANLEY EXHIBIT

410. Axe and adze blades from New Zealand and the Solomon Islands.

B. L. HORNSHAW EXHIBIT

411. **Coil of Feather Money.** Santa Cruz.
412. **5 Charms.**
413. **Collection of Photographs of Aboriginal Rock Carvings.**

"SUN" LIBRARY EXHIBIT

414. Collection of photographs of native arts and crafts.

R. H. GODDARD EXHIBIT

415 A Camp Site Collection from Morna Point, New South Wales.

MRS. FREEMAN EXHIBIT

416. **TWO BEATEN SILVER CUPS.**

Used for holding ingredients to be mixed with betel nut.

Chiengmai, Laos, Siam.

417. **OLD GONG.**

Chiengmai, Laos, Siam.

418. **GIRL'S DRESS.**

Skirt and blouse, native weaving and pattern.

Chiengmai, Laos, Siam.

AUSTRALIAN MUSEUM EXHIBIT

419. **PACIFIC ISLAND CURRENCY—in Table Case.**

The value is assessed by weight, size and length, and especially by age and historical association. It is used in payment for services rendered, such as the making of weapons, houses, and canoes by the craftsmen, or as part of gift-exchange, and in all ways serves as a medium of exchange.

Discs of various sizes and values, cut out of blocks of clam shell, a specimen of which is exhibited. Three specimens.

Strings of Shell currency. "Tambu." Solomon Islands.

(a) Discs of coconut and mollusc. Bougainville Is.

(b) Discs of Chama and Conus shells. Bougainville Is.

(c) Discs of Nassa shell. Bougainville Is.

(d) Chama shell. Malaita Is.

Shell-money or "Diwarra." Discs cut from Nassa shells, made up into coils from 100 to 500 fathoms in length—smaller pieces are also used. Duke of York Is., Bismarck Archipelago.

Whale's tooth, Fiji Is. These are insignia of rank, but are also used as an exchange medium.

Feather Money or Tavau, Santa Cruz Is. The red feathers of a Honey-eater are set in a thick layer of Parinavium gum on a long strip of bark. The figures in wood are charms. Exhibited by Mr. B. L. Hornshaw.

"Money Cowries" used as currency in Egypt, Africa, and parts of India and China. They were obtained from the Maldive Islands, in the Indian Ocean.

EXHIBIT OF PRIMITIVE ART.

The specimens exhibited have been selected to illustrate primitive man's appreciation of colour and design, and as an indication of the wealth of motifs to be seen in the comprehensive collections displayed in the galleries of the Australian Museum.

420. **IN ISLAND CASE.**

Australia—

2 **Spear-throwers.** The end of the spear is fitted to the peg at the proximal end of the spear-thrower and the arm swung over very rapidly. Greater distance, speed and accuracy are thus obtained. Kimberleys, North Australia.

5 **Boomerangs** from various localities, with beautiful incised geometrical designs.

1 **Bark Belt,** North Australia, coloured with ochreous pigments in a simple geometric design.

1 **Pearl-shell Pendant** on human-hair belt. Wyndham, W.A.

1 **Pearl-shell Pendant** on human-hair neckband. Wyndham, W.A.

2 **Baskets,** North Australia.

1 **Basket,** Queensland.

1 **Bark Basket,** Melville Island. The designs used by these natives are of great variety, and two sides of an object are rarely decorated with the same design. Red and yellow ochre, and white pipeclay are used in colouring.

New Guinea—

2 **Pipes or "Baubau,"** Port Moresby. These consist of a nodule of bamboo, and the designs are burnt-in.

2 **Bark Belts,** Gulf of Papua. The intricate designs are carved and then infilled with lime or pipeclay.

2 **Sword Clubs,** South-east New Guinea. The beautiful scrolls of this type of decoration, for which the Massim are noted, are derived from a bird's head.

3 **Spatulas,** South-east New Guinea These are used as spoons for lime by the natives when indulging in the practice of betel-chewing.

ON WALL.

421-2-3. 3 **Shields,** "Borbory," North-east Queensland.

424. 1 **Shield.** Mouth of Sepik River, Mand. Territory of New Guinea.

425. 1 **Shield.** Kiriwina Is., South-east New Guinea. Massim.

426. 1 **Shield.** Milne Bay, South-east New Guinea. Massim.

427. 1 **Shield.** Gulf of Papua.

428. 1 **Shield.** New Britain.

429-30-31. 3 **Gopi Boards.** Gulf of Papua. These are kept in the club-houses to which initiated men only are admitted.

432. **Tapa Cloth.** Examples from New Guinea, New Hebrides and Fiji.

ON TABLE.

433. **Canoe Model.** Admiralty Islands. Dug-out and outrigger.

434. **Canoe Model.** Buka, Solomon Islands. Four planks are sewn together and the seam covered with gum cement.

435. **Canoe Model.** Rubiana, Solomon Islands. Small pieces of pearl and clam shell are set in Parinarium gum.

436. **Canoe Model.** Fiji. Dugout and outrigger.

437. **House Model.** Port Moresby, New Guinea. Motuan Pile House.

438. **House Model.** Tree House, New Guinea. Koitapu, Port Moresby.

439. **House Model.** Tonga.

440. **House Model.** Marshall Islands.

441-2. **Shield.** 2 "Goolmarry," North-east Queensland.

443. **Shield.** 1 "Woondah," Kimberleys, North-west Australia.

444. **Shield.** 1 Kimberleys, North-west Australia.

445. **Shield.** 1 "Mulabukka," Western N.S. Wales.

446. **Shield.** 1 "Mulga," Western N.S. Wales.

447. **Shield.** 1 "Tawarrang," Victoria.

ON FLOOR.

448. **Carved Tree,** Western N.S. Wales. These are carved around the grave of a noted tribesman as a pathway for his spirit to return to the skyworld; they are also used during the initiation ceremonies.

449. **Carved Post,** New Ireland, "Totok." They are never exhibited in public, but are kept in a secluded mask-house and only initiated men can see them. One or more are carved at the death of a man, and the totem of his clan, usually a bird, forms part of the design. Red ochre, white clay and charcoal are used for colouring.

ON TABLE.

450. **Helmet Mask.** These dance masks are used only on festive occasions. They are prepared in secret and discarded after the ceremony.

451. **Winged Mask.** Of grotesque nature, representing heads of New Ireland men, birds and animals modified by fanciful elaborations. These masks are displayed, not worn, on special occasions, each one being in memory of a deceased person. North New Ireland.

452. **Kaivakuku Mask,** Gulf of Papua. The employment of masks in symbolic dances is very characteristic of the Papuan Gold District, but little is known of their significance. They are worn by dancers who represent spiritual beings; women and children are rigorously excluded from the ceremonies. The masks are destroyed by burning after use lest they be seen by uninitiated.

FISHING EXHIBIT

ON TABLE.

453. **Bark-fibre Fish Nets,** from Queensland, of various meshes. They are mounted on circular frames of cane and used in the hand.

454. **Mesh-net,** 68ft. in length, made from bark-fibre. It has shell sinkers and wooden floats, and is used in reef-fishing. Collingwood Bay, East Coast of rattan. North-east New Guinea.

455. **Fish Trap,** conical, made of thin strips of rattan. Northeast New Guinea.

GLASS CABINET ON TABLE.

456. **Bark-fibre Fishing Lines,** from Queensland, with hook made of bone and turtle shell, unbarbed.

Shell-fish Hooks, Port Jackson, N.S. Wales, and Stone Files with which they are made.

Toggle Fish Hooks, Queensland.

Fish Harpoon Dart, Queensland.

The fish hooks of the Pacific Islands consist of a mollusc-shell shank and a hook proper of turtle shell, bone or wood, usually unbarbed. They are used without a bait, as the bright appearance of the shank resembles a small fish. Examples are shown from New Zealand, Solomon Islands and Murray Island.

TABLE CASE.

457. **Children's Toys and Playthings,** Queensland.

Playing balls made of gum cement, wax and clay.
Spinning tops, made of gum cement.
Teetotum tops, consisting of a small gourd or candle-nut on a stick.
Bone and reed whistles.
Shell rattles.
Bullroarers.
Cross-Boomerang.
Throwing-stick.
Dart.
Spear-thrower.

Seeds used as food.

A selection of the innumerable seeds used by the aborigines as food. They are treated in various ways, usually being winnowed and pounded up and soaked in water. They are either roasted or cooked in the form of a damper. Seed foods supply a valuable element in the diet of the natives.

Bunya Bunya nuts. Araucaris bidwilli, Hooker.

Zamia nuts and meal. Cycas media, R.P.

Nardoo seed and meal. Marsilea drummondi, Braun.

Jequirity seed. Abrus precatorius, Linn.

Bean seed. Mucuna gigantea, D.C.

Pituri. Duboisia hopwoodi, M. used as a narcotic. The leaves and twigs are gathered in season and then dried, broken and powdered. It is either masticated or smoked. In the latter case it is dampened, mixed with potash and rolled into a cigar. It contains an acrid alkaloid, Piturine, allied to nicotine, and is a powerful stimulant and intoxicant. The natives make long journeys to South-western Queensland from all directions to secure it, as it is, in addition, a valuable object of barter.

Truffle, or Native Bread, an underground fungus (Polyporus mylittae, Berkeley), which grows in globular, irregular masses up to twenty-eight inches in circumference. When first dug up it is soft, with a peculiar acid smell, but after exposure to the air it becomes hard and horny. When cooked by boiling it is said to be insipid, and somewhat similar to boiled rice. It has a wide distribution.

Gum-Cements.

Specimens of plant gums used by the aborigines to attach spear-heads to the hafts, spear-points, and for many other purposes.

Porcupine-grass Gum. Triodia pungens.
Acacia Gum.
Grass-tree Gum.
Beeswax.

ON WALL.

Spears.

458. **Obsidian-headed Spears** from Admiralty Islands.

459. **Wooden and Barbed Spears,** decorated with red and yellow ochres and white pipeclay, from Crocodile Island, Arnhem Land.

460. **Spears** of various types used by the Australian aborigines.

Bows and Arrows.

461. **Arrows** of various types from the Solomon Islands, with bow.

462. Arrows from New Guinea.

Rock Carving Tracings.

463. **A series of figures** from different groups in the County of Cumberland. These are actual life-size tracings.

H. J. WRIGHT EXHIBIT

464-494. **COLLECTION OF STONE ARTIFACTS** from the New South Wales Coastal Districts, North Australia, and New Guinea.

KEITH GODDARD EXHIBIT

495. **MORIORI FIGHTING AXE. Chatham Islands.**

This axe was unearthed together with hundreds of skulls and weapons of war when excavating for foundations for freezing works, and had evidently been the scene of a fierce battle in the dim past.

496. **6 FLINT ARROW HEADS** from the watershed of the Wabash River, near Lafayette, Indiana, U.S.A.

497. **8 STONE "FILES"** used in the manufacture of shell fish-hooks.

These tapered objects, normally composed of sandstone, were used by the aborigines of New South Wales coastal areas for fashioning and sharpening fish-hooks made of shell.

A rough disk of shell was first broken and the centre burnt out or calcined with a glowing stick; this aperture was then enlarged with the "file," and similarly reduced and rounded on the periphery.

The ring of shell was next rubbed through, producing a cresendic hook resembling the letter C. This was painted, finished off, and the fishing line attached.

S. R. MITCHELL EXHIBIT

498.—
Selected specimens of Aboriginal artifacts—Victoria.

J. S. FALKINER EXHIBIT

499.—
Comparative Tasmanian artifacts—East Coast, Tasmania.

CARLYLE GREENWELL EXHIBIT.

500.—
Collection of Articles demonstrating the materials used in Malayan Arts and Crafts.

MISS JOYCE ALLAN EXHIBIT

501. **LARGE WOODEN "AXE."**
About the year 1900 some white people were killed by cannibals in the Solomon Group, and the warship H.M.S. Royalist, which had recently arrived from England to do colonial service in Australasia, was despatched to the islands to capture the murderers. When the ship returned with three of the natives responsible for the massacre one of the officers brought back with him many trophies, including this weapon. On it can still be seen bloodstains.

JOHN POWELL EXHIBIT.

502. **STONE IMPLEMENT. Mandaravatta, Fiji.**

503. **STONE AXE.**
Reconstructed. The stone is old, but the handle has been put on by a modern native in the original style. **Australia.**

504. **BONE SNUFF SPOON. South Africa.**

REV. A. J. BARRETT EXHIBIT

505. **NINE ISSUES OF "THE SCIENCE OF MAN"** of the years 1902, 1903, 1904. This was the journal of the late Royal Anthropological Society of Australia, of which the present society is the logical successor.

CHILDREN'S CORNER.

506.—
Birds, Mammals, and Snakes. Kindly loaned by the courtesy of the Taronga Park Zoo Trustees.

Aboriginal Rock Carving

THE ABORIGINE AND HIS FUTURE.

By F. McCarthy

The future of the aborigines in Australia is a much-debated question at the present time, and it is sincerely hoped that some policy of real value to this neglected aspect of Northern Australian administration will be adopted and pursued by the Government.

As has often been reiterated the contact between white and black in Australia, from the earliest time to the present, has been most distressing from the aborigines' point of view, and so far as colonisation is concerned, a terrible indictment on the official attitude. In every state there are places where massacres of natives have taken place as civilisation pushed ever outwards, and even in recent years commissions of inquiry have been set up to investigate such affairs. Only recently a serious suggestion was put forward to send a punitive expedition to Arnhem Land to teach the natives a lesson.

The aborigine is not a lawless savage; he is guided by his own moral code which embodies extremely rigid rules and taboo, the infringement of which is punished by loss of prestige, severe physical injury, and even death. When can these unfortunate people expect to be given the just treatment for which they have been waiting so long? Misunderstood, their tribal code a riddle to most people who have contact with them, they have been punished for actions which to them are quite justifiable but which according to our legal system are crimes. Consider the position of the police constable. He acts as protector of the aborigines and at the same time is required to administer the white man's law to them. These are obviously two irreconcilable duties. Such a state of affairs is unfair to both the police as protectors and to the natives, and should not be allowed to continue.

Public opinion towards the aborigines must be altered from one of scorn and derision at his uselessness and so-called low-mentality to one of sympathetic understanding of his plight, accompanied by a resolve to lessen his hardship. This change of opinion has been effected in New Zealand, and those Maoris who have risen to eminence in the professions have done valuable work in alleviating the condition of their race.

It is apparent that the native in Australia cannot be left to live his own free and unfettered life any longer, whether he be on a reserve or not, firstly on account of interference with his family and tribal life by whites and others and the circulation of pernicious drugs and liquors amongst them, secondly because there are prospects being developed by investment companies in the near future. There must be an intermediary between native and white and there must be proper supervision of the relations between them.

The work of the missions throughout Australia has been the one bulwark of the natives in many areas, and is to be highly commended. There are many natives living on reserves at present for whom life would be an impossible thing without their help. The missions have attempted to teach the natives useful arts and crafts, especially a knowledge of the work required on farms and cattle stations. They are performing valuable work of this kind in many parts of Northern Australia in country frequented only by prospectors, aborigines and cattle, in addition to caring for the natives in the more settled parts. The combined work of the Aborigines' Protection Board, the Education Department, and the Missions in New South Wales, has accomplished a great deal for the natives under their care. This can also be said for Queensland, a State which has already adopted a reasonable attitude in this matter. The late Dr. Roth, Chief Protector of Aborigines for Queensland, performed a great deal of invaluable scientific work while acting in that capacity.

Should the Federal Government appoint capable and well-trained officers to carry out such work in other parts of Australia then not only will the administration of the aborigines be conducted to the satisfaction of all, but valuable contributions will be made to science and to our knowledge of the culture of the aborigines. Such service has been performed by the administration officers of New Guinea and the setting up of a similar administration in Australia is an urgent requirement in the government's future policy for the welfare of the aborigines.

However the setting up of an administration does not entirely solve the problem.

Half-castes are multiplying each year and prejudice prevents them from being decently treated, Further, the employment of full-bloods and half-castes, and the support of their dependants, is a problem that will have to be faced. It is desirable that they be employed on cattle stations as they are adept at this work, and, failing other employment, they should be quartered on Government cattle stations, as in Western Australia, where they are given instruction in agriculture.

In this regard it is interesting to note the regulations for the employment of natives in outlying parts. A license to employ a native can be secured for ten shillings, and he is to be paid five shillings per week in cash or in kind, depending upon the circumstances. His employer has to contribute to a State medical fund, as follows:—For two natives in employ, sixteen shillings per annum; between five and ten, two pounds eight shillings; over twenty, eight pounds. If his employer is also supporting his dependents then he is exempted from paying wages.

The statement has been made that the Government's policy is being faithfully administered, but is this policy sufficient? Those who have studied the question are satisfied that it is not. The policy of the Government must be positive and constructive. It should embody a Commonwealth Native Administration, and employ properly trained officers and patrol men, capable of carrying out a scientific investigation of the tribes with whom they are in contact, of codifying their laws, and of performing their work in a sincere and impartial manner.

THE SLING IN NEW CALEDONIA

(By Tayo Bunkerah)

When Captain Cook discovered New Caledonia he gathered a collection of arms which the writer remembers quite well, having seen them among the relics that were in the Australian Museum during the early eighties of last century.

In the collection were slings, sling stones and the netting basket in wihch the pointed war stones were carried. The slings were principally made from bark fibre, young banian roots supplying this. The tayo, or New Caledonian kanaka, of Papuan type, always had the sling twined round the mop of hair that nature has adorned him with. The stones intended for war use were pointed at both ends and the long netting basket in which they were carried encircled their loins, the stones being squeezed out of these as wanted.

The greatest proportion of the war stones were made from a talcose rock that was easily shaped, but pebbles of the harder serpentine, when found in the river bed almost the length and shape required, were given the finishing touch and were greatly prized. In the Kouaoua Valley on the East Coast, a seam of datolite in which patches of scheelite exist, has also given stones of this last heavy material, and no doubt the scheelite stones would have a range that would cover at least six hundred yards from starting point to the end.

Wherever the use of the sling as employed by the kanakas came from, those that brought the idea out, certainly managed to make projectiles revolve on their axis long before missiles fired from rifles did the same.

Of course it is easy to prove that it could not be otherwise, for when the stone is being sent on its journey and the tuft of fibre between forefinger and thumb is released, the loop on which the lengthy stone is resting gives to the missile a rotating pull.

Practising from early childhood the kanakas attain great marksmanship. I have seen a pigeon knocked down at eighty yards with a river bed stone. The same man, in five throws at flying fruit bats, at ranges up to sixty yards, knocked down three.

Near Voh, on the western coast of New Caledonia, a whole crew of a cutter, the "Secret," though armed with guns of the Brown Bess type, were massacred by natives armed with slings. In 1878, the blockhouse at La Foa was assaulted by revolted kanakas, and a rain of sling stones thrown from three to five hundred yards, managed to wound several men including a Corsican of the name of Mercuri. The gun in the hands of the French troops was the chassepot. Behind stumps that afforded shelter, a kanaka would rise, throw his stone and duck back to shelter. One of the officers in the blockhouse got the idea of getting two or three soldiers to aim at these stumps. One soldier would fire over the stump, followed immediately by the one or two that were paying attention to it. The kanaka, hearing the first bullet whistle overhead, would rise to sling a stone and by that action would meet the bullets that followed.

Several were killed in that manner and only those at a greater range were able to continue the assault after this episode.

NOTES ON CERTAIN MASSIVE FLAKED IMPLEMENTS FOUND IN THE PORT STEPHENS DISTRICT

R. H. GODDARD

In introducing the subject of aboriginal Stone Implements, particularly the flaked varieties, one does so with a certain amount of caution. On the other hand, the form of many has been established; and on the other, with our meagre knowledge of the habits and customs of the peoples who once occupied this area, it is now a matter of conjecture; since the early settler was rarely the type of man trained to exact scientific observation, and the introduction of iron soon led to abandoning stone tools. In 1928 the late W. W. Thorpe (1) described a series of massive "Choppers" found in a shell midden at Morna Point, south of Port Stephens and favoured the belief that they were made for breaking marine and esturine shells to expose the edible molluscs.

It is certain that many implements were used for more than one purpose. For instance, many of the ground axes show that they served as hammers and anvils.

When we consider that the crudeness and lack of finish in some areas is due to the available stone being unsuitable for what might be classed as higher forms, the principal may be laid down that the type of stone most commonly used in any particular locality is largely influenced by the material most readily at hand.

The appearance of one type, predominates in the Port Stephens area, a peculiarity due to the character of the material available at each station. This locality is of considerable geological interest and has been described by David (2) in the following terms—"at Anna Bay the sea cliffs are formed of a reddish grey quartz and felspar porphyry, the exact relation of which, in the Carboniferous system, are not clear. It has been assumed that this rock is in

By courtesy of the Royal Society of New South Wales.

1 Thorpe—Records of Aust., Mus. XVI. No. 5. p. 243.
2 David—The Geology of the Hunter River Coal Measures, Mem. Geol. Surv. N.S.W. Geol., No. 4, Pt. I., 1907.

the nature of a contemporaneous lava; it is intersected in places by basalt dykes of later origin. The nature of its junction with the Carboniferous is for the most part obscured from view, as blown sand completely covers the older rocks over almost the entire area from Morna Point to Newcastle."

This porphyry passes North West into the swampy area which abounds Tirrigerry Creek, appearing again on the northern side at "The Gibbers."

Whilst on periodical inspections of certain properties in this area I have had opportunities of following this outcrop of porphyry. On examining these swampy areas along Tirrigerry Creek, during 1931 I collected five massive flaked implements and some chippings at the base of old stumps in the Mangrove swamp. I think there can be little doubt but they had been used by the aborigines in the early days in removing timber for making shields.

On discussing my find with Mr. R. T. Baker, late Curator, Technological Museum, Sydney, I was informed that the late John Stuart Dick, of Port Macquarie, had often seen the natives removing the shields in the early days of the settlement with stone tools, the most suitable being the Grey Mangrove, Avecennia officinalis, Linn. It was preferred to any other, owing to its hardness, strength and lightness, essential qualities in fighting weapons.

(By courtesy of the Royal Society of New South Wales)

There can be little doubt that the aborigine was familiar with the peculiarities of this timber, and preferred it to all others for making shields; the fact that this timber splits tangentially more readily than that of any other timber grow-

ing in our coastal areas, was a big factor in making shields.

(3) Viewing a transverse section of a mature tree, the annual "rings" as obtains in ordinary dicotyledonous stems might be said to be well defined, but with this difference, that the "rings" are not continuous, the break being caused by an intrusion of another "ring," and thus the complete circle is broken.

By forcing the rings apart tangentially a good view is obtained of the disposition of the fibres. Each ring of fibres is seen to be at quite a different angle to that in justa-position to it. Sometimes they run perpendicularly, but more often at varying angles to each opposite ring.

Dr. Prain's remarks in his "Flora of the Sandabans" 1903, apply equally well to this Australian Mangrove :—

"The structure of the wood is peculiar, in that the fibres of any particular ring of growth do not pass verticully upwards, but instead diverge 'herring-bone fashion' from an indistinct vertical linear raphe, which appears to correspond to the plane of an original branch, at an angle of about 15 degrees, their upper ends blending in a much less definite raphe mid-way between two raphes of divergence. The raphes of divergence of the ring of growth next above and next below any particular ring alternate, so that in weathered trunks, and to a less extent in freshly cut sound logs, a lace-work arrangement of the fibres of the various rings of growth presents itself."

The structure of the timber much resembles what is to-day on the markets as three, four, or five-ply veneer, which can now be shown to be only a copy of nature, for in the manufactured the fibres of each sheet of wood are at right angles to one another instead of at oblique angles, as obtains in nature, which, is the main reason for the difficulty of splitting.

There is another remarkable feature about this wood, and that is its resistance to splitting radially, for it is impossible to split a log say three feet or more in length. Tangentially it is much more fissile, and in this direction it is more easily split than any other timber known to me.

3 Baker—Proceedings Royal Soc. N.S. ... Wales, Vol. XLIX., p. 269.

On a recent trip to the Liverpool Plains, I observed several trees along the banks of the Namoi River, of great age showing wide scars that had been made many years ago; and were very much weathered showing the fibres in 'herring-bone fashion' on flaking off the outside layer, the next layer was found to be at quite a different angle. This timber was the Yellow Jacket, Eucalyptus Rostrata, which is probably the most widely distributed Eucalyptus in Australia.

An old resident of Kelvin, Mr. George Urquhart, informed me that the Yellow Jacket or Flooded Gum was always used in preference to other timber in the district by the natives in the early days on account of its toughness and strength. On searching in the vicinity of these trees, I was fortunate in finding two wedge-shaped specimens of diabase, similar in form to those found at Tirrigerry Creek, Port Stephens.

Mr. Thomas Dick, of Port Macquarie, in describing the making of a shield, says in effect that, the stone wedges were made a certain shape in order to get the lifting power. Having marked out the piece to be removed by placing a shield against the tree (4) the rabbet was cut to take the wedge, and to allow the wedge to be driven into it, and to derive great lifting power. The rabbet would be cut to a depth of two or three inches, and would be about one and a half inches wide at the surface, and half an inch at the bottom. The rabbet was cut right round the shield, and besides being used to drive the wedges in, it also cut the rings of the timber of the tree, and so allowed the piece to come away readily. Eight or nine wedges were driven into the rabbet, and when the tree was hard there would be a number of wedges destroyed and dropped, and these can be found at the present time by digging round old trees.

To get the lifting power the wedges were made practically double the width of the rabbet into which they were driven.

The shield having been removed, would be carried to the camp, where with smaller wedges and cutting stones its manufacture would soon be finished. As the trees had peculiar rings in the timber, the native simply drove small wedges into the rings and so trimmed the shield down to the required thickness."

4 Dick—Proceedings Royal Soc. N.S. Wales. Vol. XLIX., p. 285.

SINGING TO THE URA MBUTA

(By Keith Kennedy)

"Keitou ongo na yalewa mai Vuna,
Keitou mai sara ura mbuta.
Etombe ! Etombe !

So sang the group of Fijian boys, at the pool of the sacred ura mbuta, or red crayfish, near Naweni, on Vanua Levu. As they sang, white feelers could be seen waving from behind the green weeds and ledges of rock beneath the limpid water; the several bright red heads peeped cautiously out, and the crayfish gradually emerged, to rise and swim around within a few inches of the surface. The singers continued their strange chant, and occasionally pointed, to draw my attention, as different crayfish came up—a sight which, had I not seen it myself, I would not have believed possible.

Ura mbuta means "cooked prawns"—a name applied by the Fijians, because of the red or cooked appearance of the crustaceans, which, I think however, are a species of crayfish. They grow to about six inches in length, and their whitish feelers are almost as long again. They are under Tambu, so consequently are protected by the natives, who look on them as sacred. The pool where they are found is about 100 yards from the sea, with which it is apparently connected, for its water is salt and rises and falls with the tide. On one side a cliff of jagged coral rock casts a deep shadow; on the other, distorted and sinister looking mangroves stand in the mud, drooping their long aerial roots in the still water, a suitable setting for deeds of magic.

The previous day I had started from Mr. A. Leppar's plantation at Maravu, eight miles from Savu Savu bay, and with him rode on horseback to the end of the road, near the Kolundrusi, or Red Parakeet river. From there we followed a bridle path, and after passing the grass village of Nangingi, we skirted the coast, crossing white beaches of coral sand, dark mangrove swamps, and groves of graceful coconut palms, finally arriving at the plantation of Mr. Leppar, senior, beyond Salt Lake, where we slept for the night.

The following morning, we walked out to the Fijian village of Drominunuka, a word meaning "water over sand," and after tarrying there for a while, proceeded a few miles further on, to Naweni, to be welcomed by the mbuli, and treated to a genuine Fijian dinner of turtle and taro, which we ate while being fanned by an attendant, in real chiefly style. During the afternoon we told the mbuli that we would like to see the celebrated ura mbuta, so he gathered a few singers together, and we started out along the shore. The walk, from a scenic point of view, was exceptionally fine. Seaward could be seen a long white line, set in the dark blue water, marking where the rollers of the wide Pacific were breaking on the hidden coral reef. Landwards, there rose low wind and water worn cliffs, surmounted by noks noks, a species of casuarina tree, from which the Fijians made their clubs. Underfoot was alternately patches of white sand,

Fijian Meke

and sharp edged reef, the latter dotted with limpid pools containing white and purple coral, and inhabited by green crabs, black crabs, with one huge over-developed red claw, purple star-fish, sea slugs, and all the multitudinous life associated with the tropic seas. Presently we struck inland, and after a struggle through undergrowth and mangroves, reached the home of the red crayfish. The boys, who accompanied us, stood on the edge of the pool, and at a sign from the mbuli, commenced the chant, which was repeated over and over again, until the ura mbuta came out. The translation of the words is as follows :—

"We are the girls of Vuna,
We've come to see the ura mbuta,
Come out ! Come out !"

A legend, which explains the ura mbuta, says that there was once a witch woman, who lived on a little island to the windward of Mbenga, the abode of the fire-walkers. This woman, whose name was "Yalewa ni thangi mbula" (woman of the storms), had power over the red crayfish which lived around her island, so that they would come out and swim to her when she called. She had a son whose name was Raus-andra, and with him journeyed over to N-aweni. At that time a party of girls came over from Vuna, on the nearby island of Taviuni. Young Raus-andra fell in love with one of their number, but was unable to discover her name or to speak to her before she returned to Vuna. To help him find her, his mother brought some of the red crayfish from her island and placed them in the pool near N-aweni, giving them instructions only to show themselves when girls from Vuna came near. The fame of the ura mbuta spread over the islands, and it became the fashion for the girls of Vuna to come across and see them. The legend, as I heard it, did not say whether the girl that Raus-andra wanted ever visited them, but I hope it was the case in order to give a fitting ending to the story.

Nowadays the ura mbuta are fooled for boys and men sing the song and the trusting crustaceans come out, expecting to see the beautiful girls from Vuna, and are disappointed. However, as they have no voices to complain with, they can only return to their nooks and crannies and suffer in silence.

GLIMPSES OF NATIVE RACES IN CENTRAL AMERICA

THE MAYAS AND THE TOLTECS

(By DON RAPHEL MEDINA MATTEL, B.A.)

Read before the Society on September 19th, 1933.

Nothing excites the interest and imagination of men given to thought and meditation to a greater extent, than the desire to throw light on the obscure and often unfathomable history of the primitive races that have left traces of civilisations and disappeared in the mist of time leaving us an insoluble problem. Perhaps it is as well that this is so, because it teaches us the lesson that we must broaden our minds, educate ourselves to evolve a wider vision and eliminate from our natures the confined and self-centred outlook that seems natural to us.

The glimpses of lost civilisations for instance bring to our minds the conviction of the superiority of our own culture—This is because our vision is obfuscated by the glare of our material progress ; but when we take pains to examine the ethical, social, political, economic and other items that go to make up the full complement of true culture we find that we have advanced so little beyond those whom in our arrogance we name primitive savage races, that it makes us ask:—When is the regeneration of the mind and the soul of man going to begin ?

The origin of the American peoples is one of the obscure problems which we cannot expect to elucidate until the researches that are being carried out furnish more data. Many theories have been put forward but as new facts are brought to light the theories believed in for many years have been corrected out of knowledge or proven to be fallacious.

It is a very curious fact, that so many theories, regarding the origin of the American Indian, should have been brought forward as deductions from circumstances which are claimed as incontestable. Some have seen in the American Indian the ten tribes of Israel. Some prove definitely that they are descendants of men from Scandinavia, Greenland, or Ireland. Some assert that America was the famed Ophir of Solomon—Lord Kingsborough argues that the Indians of America are Jews, and has given many curious reasons for his belief.

Based on the fact that Aristotle states that the Carthaginians in one of their voyages were cast on an unknown island several authors assure us that the island was His-

paniola. Another author confirms this theory and as a proof asserts that the word Anahuatl is only a perversion of the word Anak.

Other authors have formed their theories on the language—as they have found similarity between the American, the Phoenician Egyptian, Chinese and Japanese languages.

But the fact remains that up to now the enigma is still unsolved. The most ancient race in Central American history, I mean the race whose civilisation reached a development worth recording, was the Nahuatl. From it sprang the conquering nations of the Mayas, the Toltecs, the Zapotecs, the Chichimecs and the Aztecs. To endeavour to speak of the races of Mexico and Central America in detail would be impossible in an address.

I will confine myself, therefore, to make passing reference to two of the races that stand conspicious by their culture and achievements in the continent of Central America.

Central America has indeed been, and is, a land of promise from the view point of its wealth and abundance of beauty ; and it has also been prolific from the point of view of the development of human thought and endeavour.

We find evidence there of a dazzling array of races which, one after another, came, flourished and vanished overwhelmed by hordes from the north, who invariably adopted the culture of the conquered and settled under that beautiful sky until they, in their turn, were destroyed and enslaved by another devastating avalanche of savage fury from the north.

The soil of Central America contains more manifestations of the ancient history and culture of the Maya people than any other because it was there that the culture of that race reached the highest pinnacle of its development. We have all read of the multifold and bewildering evidences of the ancient cultures of China, Assyria and Egypt ; and now in Central America we come upon as mystifying a complexity of cultural evidence in the shape of bas-reliefs, palaces, temples, monoliths, statues, cave houses, fortresses, sepulchres and tumuli representing many periods and numberless stages of development.

As far as we know now the Mayas were the first people of note who came to Central America. Many writers opine that the Mayas were not of Nahuatl origin, as many of the monuments and hieroglyphs seem to differ from those of the Nahuatl, also their language differs in some ways ; but we know that the languages of primitive peoples change with extraordinary rapidity according to location and environment, and the difference in the hieroglyphs, monuments and language are not as important as at first appears, for on close examination it is found there is a basic similarity in all of them.

The founder of what is called the Maya Confederation was Votan. He was supposed to be a servant of the gods who came from a land of darkness beyond the shoreless lake.

He is one of the most enigmatic, interesting and great personalities in the history of mankind. He was the founder of the Maya civilisation—the founder of the great city of Chanan, which is to-day the ruins of Palenque—he founded the great empire of Xibilbay whose stupendous ruins cover the immense territories from Guatemala to Yucatan.

Although the Maya history is disconnected, many capable and eminent men, fascinated by the interest it inspires, are labouring unremittingly endeavouring to discover its origin and find the connecting links. They have as basis the magnificent monuments which prove an advanced and surprising culture of so remote an antiquity, that many savants consider it contemporaneous with that of the Chaldeans and Egyptians.

Votan found the dwellers of the immense territories between California and Panama living under primitive conditions :—They clothed themselves with skins of animals, their habitations were natural caves or rude huts fashioned from the branches of trees, their food consisted of roots, wild fruits and the flesh of animals which they devoured raw.

All the tribes, however, do not seem to have led such primitive existence, because ruins of tremendous size exist in Guatemala and east Honduras which are anterior to the Mayas. I have seen some of them, and they strongly reminded me of the ruins in the Balkans and Greece.

Votan, after his death was placed among the gods. He was a great warrior and statesman and was able to maintain the supremacy of his tribe and to delegate to his successors a tradition of victory and good government. The foundations were so well laid that the domination of the Mayas lasted about 1400 years.

Votan, the founder, was not only a man of the highest ability; he was also endowed with a spirit of humanity that contrasted strongly with the barbarous and bloody practices indulged in by the bulk of the American races. In his time and during the years of his immediate successors the offerings to the gods were incense, or flowers, or the first fruits of the harvest; but the people, as time went on, fell into the most horrible sacrificial practices, getting worse and worse as the domination of the religious leaders increased; that is to say, barbarity and cruelty increased at the same ratio as superstition.

Human sacrifices became a general practice, the victims being prisoners taken in war, and failing them, people would offer their children for sacrifice. One of the most curious forms of sacrifice originated at Chichen—Itza, the great city of Yucatan. In the middle of the town they dug a well tremendously deep and wide—it was filled with water up to a certain point. An altar was fashioned out of the living rock at the edge of the abyss. When the people feared an impending calamity such as a drought or an invasion by an enemy they ascribed it to the anger of the gods and to allay it they chose a number of virgins young and beautiful. They prepared them by spiritual admonitions, working on their emotions until they became not only reconciled to their fate, but, carried away by spiritual exaltation, they gloried in it.

They were the messengers to the gods, and the priests carefully instructed them as to what blessings they were to pray the gods to grant.

Dressed in the most beautiful garments they were conducted to the sacrificial altar in a magnificent procession surrounded by a numerous cortege of priests and priestesses, who showed them the utmost deference.

When they ascended the steps to the altar the high priest would address them in this wise :—"You are the messengers to the gods; explain that their people are suffering for the want of rain, and your lives have been offered to soften their anger." Then the incense was thrown on the fire and, when the fumes began to die, the maidens were cast headlong into the yawning chasm, while the people on their knees and with hands uplifted prayed fervently.

There is no doubt that it would be hard to find a parallel to the abominable barbarities practised by the primitive Americans. In spite of the fact that they were mild, considerate and courteous in private life, they became fiends incarnate in their cruelty when goaded on by religious fanaticism.

Of the religion of the Mayas we really know very little. Some of their idols represent men, others portray serpents, tortoises and other animals. We have records of the day gods and others, but we lack yet the necessary details to be able to construct their theological system. Among the records of their gods, I will mention a curious one: The batgod, appears to be an exclusive Mayadeity. The conception of the batgod is characteristic of the psychological tendencies of those races whose imaginations continually dwelt upon death. The Popol Vuh—the sacred book of the ancient American myths describes the Zot-Ziha, or Bats House, as being a region that had to be crossed when descending to the profound depths of the centre of the earth where lies the kingdom of darkness and death. This is the home of the great beast who destroys all that come on his way. Maya hieroglyphs depict him in attitudes that demonstrate his characteristics; in one hieroglyph he holds on either hand the freshly torn heads of his victims; in another he has a freshly torn head in one hand, and with the other he grasps a fire snake. In another the monster is devouring the torn heart and blood of the victim.

The year was divided into 18 months and in Nicaragua every one of the months was opened by a feast. I will quote Monsieur Cadillac's account :—"The high priest announced the number of victims to be offered up and the names of those he had chosen either among the prisoners or the inhabitants themselves. The unhappy wretch, thus pointed out was pitilessly seized and stretched upon the altar; the sacrificer walked slowly round him three times chanting funeral hymns; then he approached quickly, opened the breast, tore out the heart and bathed his face in the smoking blood. When the victim was a prisoner the body was cut up. The heart belonging to the high priest, the feet and hands to the chiefs, the thighs to the warrior who had captured him, the entrails to the trumpeters, the rest distributed among the people, and the head was hung upon the branch of a tree as a religious trophy. If the victim were a child, offered or sold by its parents, the body was buried, custom not permitting the assistants to eat the flesh of one of their own people."

The Mayas were fairly good sailors. They built canoes out of mahogany and cedar trees; and boats were built big enough to hold as many as 60 people. To give an additional idea of their culture I will mention that there are to be seen to-day remains of roads made of stone slabs, covered with cement and in excellent state of preservation. The rivers were spanned by bridges supported by massive pillars. The enormous number of their monuments, their elegance of design, the wealth of decoration and embellishments, cannot help but inspire one with a feeling of admiration and wonder. Their proficiency in the ceramic and the technical and industrial arts, in the manu-

facture of textile fabrics and embroidery, is no less remarkable and impressive.

After the Maya people came the Toltecs whose great achievements left imperishable proofs of their culture and genius.

Many authors consider the history of the Toltecs as legendary, because the advent and disappearance of this race was as mysterious as it was dramatic, and therefore offers one of the apparently insoluble riddles in the history of the American races.

The Toltec race left tangible proofs of its existence and advanced civilisation. There are tribes of Indians in Central America who claim descent from a branch of the Toltecs and assert that the vanishing of that nation was unaccountable, sudden and mysterious. No wonder that many legends exist ascribing its disappearance to supernatural agency.

Many ruins disclosing palaces, temples, monuments of wonderful architectural design, are declared by Indian tradition the work of the Toltecs. There is yet in Mexico a place called Toltecapan. Among the Aztecs, Chichimecs and other races the word Toltec was synonymous with architect. Some of the natives of the tribe of the Pipiles, in Nicaragua, with whom I have spoken stated that they have records preserved by the elders of the tribe giving the most accurate accounts of the social political and economical systems of the Toltecs, and that these records prove conclusively that they were the greatest exponents of Indian culture. All this makes me disbelieve the assertion of some authors that the Toltec race is merely a legendary tradition similar to the Allemands of Germany, who are not found there, or to the Graeci of Greece.

The Toltec empire is well authenticated because what little we have to go on is solid enough to carry conviction.

Different branches of the conquering Nahuatl race dominated the Central American and Mexican regions during four periods; first came the Toltecs, then the Chichimecs, who, in their turn, were conquered by a combination composed of the Alcohuas, Tepanecs and Aztecs. The Aztecs, turning upon their former friends, conquered them and remained undisputed masters until they met their doom at the hands of the unconquerable Hernando Cortez.

The Toltec dominion is cherished in the minds of the Nahuas as the most glorious epoch of their race, for the Toltecs established a government and formulated laws that were successively adopted by those who came after them. It is an astonishing fact that the hordes of barbarians who came upon the desirable and rich lands of those regions invariably adopted the manners, customs, social conditions and form of government of the conquered.

The god of the Toltecs was Quetzacoatl which means: "The serpent covered with feathers." A very curious tradition persists regarding Quetzacoatl. It is stated that in early times some white strangers with long beards came to the country; there are many accounts regarding the strangers, but on one point there is agreement, namely, that the chief was called Quetzacoatl. The people worshipped him as a reincarnation of Tonacateatl, the Jupiter of the Nahuatl mythology. He was the creator of all things. They also had the god Votan, but Quetzacoatl had the greater number of followers. Naturally religious disagreements and quarrels were frequent, and the votaries of the god Votan and those of Quetzacoatl were not content to hold polemical discussions. Their contentions culminated in action, and continual wars between the sects followed; the vanquished paid dearly for their devotion to their god by suffering the most horrifying and lingering deaths.

Quetzacoatl had an enormous number of temples and monuments erected in his honour. All the museums in Europe possess statues, carvings and paintings of this god. There is no doubt he must have been a wonderful personage, this man who became a god, because it was he who planted the seed of good government, formulated wise laws, encouraged art in its manifold manifestations, and established systems of commerce. His fertile brain was the fountain from which burgeoned a culture to complete as ever existed.

I will make brief mention of the different activities of the Toltec people for this will give us a better idea of their advancement.

They invented the complex calendar adopted by the Aztecs. They did not know the use of iron but made up for this deficiency by the skilful manipulation of gold, copper, silver, lead and tin; they were well acquainted with the malleable properties of copper and tradition asserts that they possessed the secret of tempering that mineral.

Gold they had in abundance; they made jewellery, and its beauty excites the admiration of those who have seen the few pieces that escaped the possessive activity of the Conquistadores. They fashioned jewels of all kinds; for women, for men, for the rulers, for the gods and for the temples, and all showed the highest skill and the highest artistic development; nothing has ever been done to surpass it in beauty of conception and design.

One of the arts that they excelled in and which has been lost is the "plumaje," that is, feather work. When specimens of this art were taken to Europe they excited the utmost surprise and incredulous admiration. They could produce from feathers the most beautiful mosaics and colour effects. This art was utilised in making tapestries, dresses, adorning shields, military decorations and temple embellishments.

Their weapons were similar to those of the Mayas. Their offensive weapons were slings, arrows, lances and darts pointed with copper, obsidian, bone or shell; also copper hatchets and daggers which for effectiveness and appearance compared favourably with the weapons of the whites. Their obsidian knives and daggers were an admirable product.

Their defensive armour was a wonder of manufacture: it was made of cotton cloth; the padding was so ingeniously fashioned that against arrows and javelins they were as effective a protection as the steel armour of our knights of old. I may mention they also were quite as cumbersome because, like them, when the soldier lost his footing it was almost impossible for him to get up again.

They had shields made of bamboo also very effective for defense (they called them chimillis). Those belonging to the leaders and officers were works of art. They were decorated with beautiful designs of woven feathers, and plaques of gold encrusted with precious stones and devices denoting the rank of the owners.

Tradition has given us a detailed account of the physical characteristics of the Toltecs. They had clear complexions of a yellowish tinge, they had beautifully white teeth, were symmetrically proportioned and above the average in height, their noses were acquiline and their facial expression was a peculiar blending of gentleness and austerity. They were full of courage, quick to take offence and unforgiving when affronted. Their intelligence was of the highest order.

They learned to make magnificent roads and aqueducts, could build solid and beautiful cemented houses and magnificent mounds or tumuli that proved the designers to have possessed the vision, artistry and organising powers of the builders of Egypt. They could weave cloth of many kinds and qualities, they could make a fabric as fine as silk out of rabbits' hair; their scientists discovered the use of many medicinal substances and their medical men practised much the same as ours do now and no doubt killed as many as ours do. In every town there were hospitals where those who could not afford to pay for treatment were cared for.

The calendar of the Toltecs counted 365 days to the year. They divided the year into 18 periods of 20 days; this gave 360 days — there were, therefore, 5 days over —called the Complementary days.

The 5 days were not dedicated to any deity as was the case with all the other days in the Calendar. Peculiar beliefs were entertained regarding those days: the people would not take any action of importance during them; they took care not to antagonize or fall out with anyone, for whoever did so would keep quarrelling all the year. They were careful not to trip or fall or sleep during the day; they would not undertake any difficult or distasteful task; did not wash or comb their hair. Those days were the prophetic days — the uncounted days. It was unlucky to be born in one of those days — men avoided mentioning or counting them.

Their funeral ceremonies as well as all the practices that had connection with religion were in evident contrast to the humane and wise regulations enacted by them.

The disposal of the dead belonging to the common people was by burial, but their chiefs were cremated so that their ashes could be carried when either migrating or going to battle.

The funeral ceremonies were generally the occasion for human sacrifices, and the sacrificed were prisoners of war. When a royal personage died, besides the prisoners they sacrificed those of the citizens who were born in the unlucky five days of their year. These were the unpropitious days; and it is obvious they were very unpropitious for those born in them.

When men died their wives were incinerated with them. The strange feature in this custom was that, as a general rule, the wives went willingly and joyously to their doom in order to follow their husbands to the splendour and happiness of the first heaven. Should it happen, which was very rarely, that a wife refused to be burned she was doomed, when she died, to abide for ever in "Mictlan," a place of darkness and loneliness.

It looks as if wives in those days had a much better opinion of their husbands than those of the present time.

The scale of magnificence of the Toltec rulers was truly Solomonic. Among many proofs of this, tradition gives us a description of the palaces of Quetzacoatl (I may mention that the rulers took the name of Quetzacoatl, like the Roman emperors took the name of Caesar).

One of the palaces was called the "Feather Habitation." The walls of the principal rooms were covered by tapestries of feathers so ingeniously and closely woven that they looked like a smooth coat of paint. Each chamber was thus ornamented in one colour and known by its particular shade: the red room, the white room, the blue, the yellow, etc.

Another palace had four principal rooms facing the four points of the compass. The one facing the east was called the Golden Hall; its walls were covered with plaques of gold beautifully chased and burnished. The western apartment had the walls encrusted with emeralds and turquoise; the setting of these jewels was the work of great artisans. The chamber facing the south had the walls covered with shells set in frames of solid silver; the shells enclosed in each frame represented in beautiful scintillating colours some object—a god or an animal or a star or a scene. The room facing the north was covered with beautifully polished plaques of translucent red jasper. These rooms were no less than 100 by 200 feet, and some much larger.

The Toltec empire, like all human creations, after flourishing for 400 years came to an end in a nimbus of martial glory. In spite of the fact that they were enervated with pleasure and the degenerating influences that unbridled power and luxury bring in their train, when they found themselves hopelessly outnumbered, surrounded by implacable savage hordes led by the Chichimecs and the allies that traitorously turned on them, they gave proof of the highest valour and intrepidity.

Acxtitl, the last Quetzacoatl, summoned his officers and gave them his message to the people. "Tell them" he said, "that the end is here; let everyone who can lift an arm deal at least one blow and die for the glory of God and the honour of our race."

They fought and died giving their lives unbegrudgingly, men, women, children, and old men. The mother of Acxtitl organised an army of amazons and died fighting at their head.

The small remnant of this remarkable race disappeared in a mysterious manner. What became of them is one of the enigmas of history.

EXCAVATING A ROCK-SHELTER AT BROWN'S BAY, PITTWATER, N.S.W.

(By Elizabeth Kennedy).

This shelter is situated on the shore of Brown's Bay about three hundred feet from the water's edge. The cliffs, from which the shelter has been eroded by natural processes, are composed of sandstone. Above, the roof of the shelter forms the floor of a higher cave from which a fine view of the dark-green waters of the Bay, and the thick wooded hills surrounding it, is obtained. Owing to the fact that the rocky floor of the upper cave was rather thin, and showed no traces of aboriginal occupation, we did not inspect it for long. The lower cave, or shelter, is 20 feet 6 inches long, by 12 feet deep. Its height at the entrance is 7 feet 8 inches, graduating to 4 feet at the rear. On the right is a ledge running towards the North-west which is 21 feet long by 8 feet wide, and 4 feet 10 inches high. There is a hole at the end of this ledge, which was probably used as a look-out by the former inhabitants of the rock-shelter.

The floor of the rock-shelter was covered with midden material consisting of broken shells, ashes, soil, and pieces of sandstone, the latter having fallen from the roof.

Method of Excavation.

On 2nd October, 1933, we levelled the midden deposit at the rear of the shelter to the extent of 6 inches, and sifted it through a half inch wire screen. Artifacts found we labelled A (surface).

October 8th. To ascertain the lay-out of the midden material we dug a trench 1½ feet broad and 3 feet deep, running from the entrance to the rear of the shelter. The artifacts found in the trench were labelled: those found to a depth of 6 inches A (trench); all found below 6 inches B (trench).

October 15th. Excavated deposit on floor of shelter to a depth of 6 inches all over. Artifacts found were labelled A Section.

October 22nd. Excavated deposit another 6 inches.
Artifacts found were labelled B Section.

October 29th. Excavated another 6 inches of midden. Artifacts found were labelled C Section.

November 5th. Excavated another 6 inches. In this and subsequent levels all shell and bone material was dissolved, and the deposit resembled forest loam. Artifacts labelled D Section.

November 11th. Excavated another 6 inches, and labelled. Artifacts labelled E. Section.

November 12th. Excavated two sections of 6 inches each. Artifacts found labelled F and G sections respectively.

Sank hole to a depth of 12 inches below the last of the midden material in order to ascertain what lay beneath it.

MATERIAL FOUND

A. (Trench) 5 flakes, 2 split pebbles.

B. (Trench) 1 concave scraper, 1 scraper of granitic material, scraper made from outside surface of a pebble, elongated flake scraper, chip of quartz-like material.

A. Section. Well made ground-edged knife of the kind supposed to have been used by the women for skinning purposes. 14 lumps of red ochre, 2 hammer stones, 2 plane scrapers, 2 small plane scrapers, one elouera-like scraper, 14 various scrapers, 4 split pebbles.

B. Section. Elongated flake, 4 various scrapers.

C. Section, Lump of iron-stone, 2 worked pebbles, 7 scrapers.

D Section, Flake of Merewether Chert, core used as scraper, worked ironstone, 1 pointed chip, 8 scrapers.

E. Section, 8 various scrapers, ironstone rasp.

F. Section, 4 various scrapers.

G. Section, knife flake, 3 rough flakes.

CONCLUSIONS

The deposit at the rear of the shelter was only about one foot in depth, but became deeper towards the entrance, consequently our digging extended outwards.

No human remains or bone implements were found. The stone implements were mostly scrapers of various shapes and materials. Evidently there was only one culture period during the occupancy of the shelter—that of the present race of aborigines. No Tasmanian types were found. The depth of hidden material was 3 feet 6 inches, so the shelter evidently was not occupied for any great (archaeological) length of time.

ABORIGINAL ROCK CARVINGS AND CAVE PAINTINGS AT ARCADIA

(By W. J. WALTON)

It has been the writer's privilege to pay a visit to the Arcadia district for the purpose of inspecting an old aboriginal Ceremony Ground called by an old settler "A Fish Rock," and a cave that was said to contain aboriginal paintings.

The Arcadia area, although well settled, still contains, apart from its many orchards, a very large tract of virgin

Aboriginal Rock Carving.

bushland, rocks and sand, drained by a network of small creeks—mostly dry in the summer — that empty themselves into the Calabash and Colah Creeks, and it is round here that a fine field for research offers itself to the young and active anthropologist.

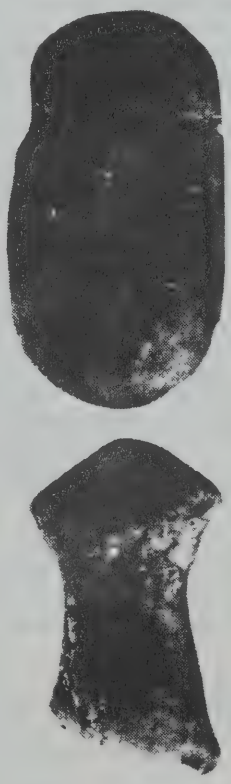
In due time our objective, the valley in which the so-called "Fish Rock" was to be found, was reached. The site in its setting, only that it is on a larger scale, resembles the old Ceremony Ground of the Cammeray Tribe. Once again the sloping rock surfaces, surrounded by the Australian bush at its best, had been selected by the aborigines with an eye to its beauty as well as its utility, for the purpose of their ceremonial rites. The purest of water is found on the rock; it is contained in several large and deep natural rock basins, round which are many sharpening grooves. From the variety and character of the petroglyphs, the environment must have been extremely sacred. The large whale said to have been the "fish" was 26ft. 3in. long; inside its wide outline is carved a kangaroo; there appears to have been another, but it is weathered. There is also inside the whale a queer figure with a tail; outside the whale there is another kangaroo and an emu. There are three human figures, one of which, very weathered, might be a female. One of the strangest figures is in profile; it has only one arm or forefoot, and one hind leg with a long foot, with claws or toes and an elongated heel. Several of these types, if they are genuine, might be animal spirit forms. There are some names about apparently from their appearance made many years ago, and an anchor. On this account several of the carvings seen on the day of the visit which are unlike anything hitherto seen in the native art galleries, must remain doubtful until the grooves are checked up on a future visit. One of the figures resembles the lower part of a leg, with two feet set at right angles to each other. There is what appears to be the faint figure of a bird and part of its neck. Close by are two weathered emu foot prints. There is a circle attached to a straight line, but no deity; his absence suggests the sacred rock was used for other rites than the man-making one. In the old aboriginal life, when

its social structure was in full swing, there were in every tribal area many sacred places, rocks of peculiar shape, and even stones and trees, with sacred caves and waterholes, each having its particular name and special rites; rock surfaces with representations of ancestral deities, spirit and food animals round which revolved the centres of the four great phases of the old ceremonial life, the totemic, war, food and the manmaking ceremonies; several mundoes or spirit footprints found on the fish rock point to the strong belief of the aborigine in reincarnation. A white man, by name "Davis"—a convict who absconded and lived for fourteen years amongst a tribe at Wide Bay, has left on record that they, the aborigines suppose that their men, and those who get killed in battle, become white men and their ghosts go somewhere beyond the sea. The sacred cave at Arcadia links itself up with the aborigines' belief in reincarnation. It is in difficult country and in another valley to that of the Ceremony Ground. Ages ago an enormous rock had detached itself from the top of the ridge and slipped until it came to rest lower down. On one of its sides there is a cave, not large but very uniform in its shape. On the wall at the back are the paintings; they consist of an emu 39 inches by 12 inches done in a black pigment, a woman in a white pigment showing traces of black; the grease with which the paint was mixed has spread slightly on the rock. Another painting in black has perished. There is also a white stencilled hand. Although the meaning of these hands in caves may not yet have their significance fully known, there can be no doubt about the use and character of the paintings in the lonely cave at Arcadia. "Treat the place with reverence" for many aboriginal myths and legends gather round it, reincarnated spirits have their abode here—spirit children, babies in prison, waiting for a mother to come and claim them, and bear them, so that in the cycle of reincarnation they can be reborn and appear once again on the earth. The pendulous breasts of the woman, and the stencilled hand, prove that the aboriginal women held ceremonies in this cave in the rock boulder, in order that through spirit influence they might have children. To these spirit caves and waterholes, the aborigines believe the spirit at the end of its wanderings will return.

AN ABORIGINAL GROUND AXE

(By W. J. Enright.)

Two years ago I received from Mr. W. F. Appleton the axe head and stone shown in photo. He found it with the stone on the eastern slope of Drummond Range about 60 miles from Clermont and 40 miles from Alpha. At first sight I thought the stone might have been used for sharpening the axe, but an examination of the former shows it to be of limestone which would be rather unsuitable for sharpening, and Mr. G. D. Osborne D. Sc. of Geology Department, Sydney informs me that limestone, and sandstone weathers in that shape. The axe head is of igneous rock and is 8 inches in length and form and one half inch width.



Mr. Dillon of Surbila Station, Alpha, informs me that an axe of this type is never provided with a handle, and is used by the aborigines for cutting out grubs from trees. Mr. W. Thorpe late of the Australian Museum informed me that axes of this type have hitherto been found only on the far west in the same district as the Widows Caps and Cylindro—conical stones.

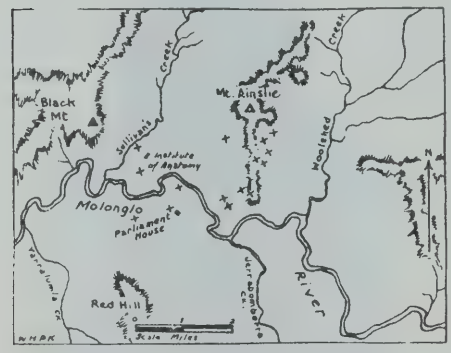
OBSERVATIONS IN THE GOULBURN AND CANBERRA DISTRICTS.

(By Will H. P. Kinsela)

During the course of several visits in 1932-33 to these districts the writer was fortunate in securing a representative collection of aboriginal stone artifacts.

In one instance the location of some small flaked implements gives cause to interesting speculation regarding their probable age.

The city of Canberra, in its embryo status as the Federal Capital, lies in the



broad valley of the Molonglo river and its tributaries. Walling it in on all sides are hills and spurs of varied character rising in the south to the rugged and precipitous massif of the Kosciusko plateau.

Between the rains, which are few (1), the Molonglo (spelt Moolinggoollah in 1822) (2), is little more than a continuous chain of deep, permanent waterholes. Not many miles down its winding valley, from Canberra, it joins the greater waters of the upper Murrumbidgee (or Murrumbidjah, according to an old identity of Goulburn).

To-day most of the native timber still standing stretches across the hills and uplands, with the broad valleys cleared for cultivation and grazing. During the time of the aboriginal hordes it is assumed that the whole land surface was clothed in more or less heavy trees and scrub. With greater areas of vegetation this would have a considerable effect on the rainfall, besides tending to shelter what water was deposited on the surface. It is reasonable to say then that the native had a more reliable supply of this liquid necessity than we have now.

Consistent with these factors the animal and plant life must have been fairly abundant. Even to-day it is not surprising to find such food types as macropus, platypus, echidna, wombats, varied reptiles, wild ducks, cockatoos and so on within hunting distance.

Apart from a consistent food supply it seems likely that the aborigines vacated these high altitudes during the winter months when the locality can be bitterly cold even to the heavily clothed modern inhabitant. No doubt the warmer plains and slopes to the westward and eastward were favoured by the natives until the changing of the season.

Judging by lithic remains alone it is evident that these highland regions did not support such a dense population compared with the coastal zone where numerous kitchen-middens indicate considerable activity.

When seeking artifacts in the Canberra and Goulburn districts the writer had to search diligently to locate the site of any old camp or "workshop." Generally these were either close to creeks and rivers or in the sheltered parts of the hills. Sometimes a landmark in the form of a high group of rocks would yield specimens.

Among the group of hills near Mt. Ainslie, at Canberra, the writer collected a few, and very few, flaked implements, showing careful workmanship of secondary finish. Several "crescents," "thumb nails," plain scrapers and scarifiers or "points" were interesting types, but they needed tedious searching to locate. Perhaps after six hours careful hunting on one site the reward might only be twelve artifacts.

The majority of these specimens were lying on the surface, amongst a jumble of frost-chipped and gravel detritus on low ridges between dry creek beds which only flow after heavy rain. It is obvious that no amount of excavating would reveal any further specimens, but it is likely that in the alluvium carried down by these torrential streams to lower levels one would find others. However, they would be bruised in the course of their movement by the stream. This is a field for future study.

At various times during and after the construction of the capital city, workmen have turned up ground axe heads in all shapes and sizes. Not a hundred yards from Federal Parliament House one was found

(1) Average rainfall.—Canberra, 22 ins. Sydney, 47ins.
(2) F. W. Robinson, M.A.,Ph.D. "Canberra's First Hundred Years and After."

and it reposes, with others, in the galleries of this building.

The Institute of Anatomy also has specimens from the Territory. In passing it is worthy of mention that in the museums of this scientific centre, under the direction of Professor Sir W. Colin Mackenzie, are housed the splend'd series of aboriginal relics presented by Col. E. O. Milne to the nation. No visitor to Canberra should fail to see these remarkable galleries, inasmuch as they also contain the numerous and varied osteo remains of aborigines themselves, being intensely interesting from a morphological point of view.

Immediately to the west of this Institute, and within a few hundred yards, the writer located a ground axe head partly buried, near Sullivan's Creek. This particular area around the creek was known to the aborigines as Canburry, and the creek was so named by the first surveyors. From this name has been corrupted the modern one of Canberra, which, according to the late W. W. Thorpe, meant "meeting place." The name is beyond doubt an aboriginal one, but there is some difference amongst investigators as to its true meaning, if it had any at all.

As previously mentioned, the circumstances affecting the position of certain "pigmy" implements found in Canberra seems to place them considerably older than types one ordinarily finds on the surface. In this instance the initial search began in a place altogether apart from the actual site where the specimens were found. The writer had been observing the application of river-sand as a top-dressing on the grass of a small sports oval. On examining the heaps a pleasant surprise was forthcoming in the shape of one or two scarifiers and numbers of flakes. This led to inquiries as to the exact location of the sand pits where the material came from.

Having found the pits it was only a matter of careful searching before several artifacts were collected. Fortunately some of these were found in situ as deep as two feet below the surface.

Now the sand formation at this place is part of the high-level river terrace of the Molonglo and would, as far as one can tell, be above extreme flood height.

The same conditions were noted on the opposite side of the river, quite close to Parliament House.

Evidence shows that the artifacts were dropped by the natives on approximately the same site as they were found, as they bear no signs of attrition due to the movement of running water.

How long then has it taken the sand to accumulate above the artifacts, and does it place any antiquity on them ?

These are questions which will only be cleared up when more extensive evidence has been tabulated.

Making Goulburn as a base the writer made investigations through the districts eastwards towards the Shoalhaven river. Around Bungonia (the name according to old identities is from Bungunyah—a good camping place), several stone axe heads were obtained from local farmers who had ploughed them up along alluvial creek flats. Others were had from a farm on the Marulan road, near Professor A. N. Burkitt's property. It is interesting to note that on this latter place is a marked tree reputed to be indicating a burial site.

The carving takes the form of three lightly-cut inverted chevrons, possibly done with a stone axe, in the centre of a roughly-shaped depression about 3 feet long. Within 200 yards of this tree, now dead, an aboriginal skeleton was exhumed during the digging out of a rabbit burrow.

An old camp site and "workshop" on a low ridge overlooking a tributary of Bungonia creek yielded a stone axe head, some scarifiers and several scrapers. This is clearly marked by a prominent group of residual quartzitic rocks. On one flat surface are two axe-grinding grooves.

Just about here, below the surface, the country is riddled with many limestone caverns. Etheridge (1) records that an aboriginal child's skull was found in one of these caves in 1893. This is a rarity as the natives mostly shunned limestone caves in their fear of weird, dark places.

This completed the expedition to the Bungonia area.

At the Technical College museum in Goulburn, amongst other things, is a rather good exhibit of stone axes, pounders, millstones, ground knives and so on, representative of the district around.

(1) Etheridge—Geol. Survey Records (N.S.W.) Vol. 3, 1893.

SOME ABORIGINAL WORDS AND SONGS OF THE MACLEAY RIVER, N.S.W.

The following aboriginal words, songs and sayings were collected at Towel Creek Station, Macleay River, N.S.W., by my brother, the late G. F. Cobb, who learnt the language in 1879.—K. M. Cobb.)

NAMES OF ANIMALS, ETC.

Kangaroo —— Womboyne.
Wallaroo —— Yindibye.
Brush Wallaby —— Murara.
Paddymelon —— Money.
Kangaroo Rat —— Gimmung.
Dingo —— Wangarl.
Dog —— Mirre.
Common Opossum —— Willi.
Scrub Opossum —— Witti. (This little opossum has a white tip to its tail, and builds in vines a nest of grass.)
Flying Fox —— Bullar Wirre.
Laughing Jackass —— Kurrucar.
Magpie —— Gnarmbul.
Black Magpie —— Currawang.
Crow —— Wachcarn.
Pee Wee or Magpie Lark —— Barling Gully Gully.
Quail —— Burren Burren.
Eagle Hawk —— Billar Bong.
Wonga Pigeon —— Gum Moree.
Wren —— Dilproin.
Iguana —— Doungay.
Black Snake —— Mootoo.
Carpet Snake —— Buckulla.
Grub ——Toonarang.
Perch ——Gooberrie.
Curlew ——Wirrilwon.
Swallow —— Yerrewin.
Butcher Bird —— Torokoo.
Owl —— Boo Burra Booka.
Eel —— Curricay.
Cat Fish —— Will Lung.
Young Man —— Muruwon.
Young Woman —— Muruwon Gunny.
Hut —— Barry.
Bread —— Wegi.
Fat —— Beban.
Honey —— Cobrunga.
Bees —— Bobung.
Butterfly —— Bullum Bular.
Mountain —— Buck Cull.
Grass —— Gurrul.
Stone —— Durarue.
Stinging Tree — Burregun.
Boomerang — Burragun.
Spear Thrower —— Womera.
Club —— Nulla Nulla.
Home —— Munen.
Native Oak —— Gurrul Grah.
Yam —— Buther Thun.
Horse —— Gar.
Water —— Coong.
Fire —— Guel.
Sun —— Euroka.
Moon —— Gittin.
Star —— Wittoo.
Ducks —— Wirrang.
Yes —— Yoe.
No —— Huge Huge.
One —— Wartho.
Two —— Putta Putta.
Three —— Butarbo.
Four —— Butorbo Butorbo Wartho.

SHORT SAYINGS

Mere Mar Boondar Barrica (Look Sharp Pull Down Rails.)
Manda Urung Goometer Goode Far (Lift Him Up And Throw Him Down.)
Eigatar (I Think So.)
Putty Putty Vungitar (Run Quickly.)
Bulong Grammelly Undica (Bullock Will Chase To-morrow.)
Gar Ambemar Coong (Horse Bring W[illegible])
Wirrang Deling (Ducks Plenty.)
Mirre Bookar —— Stinking Dog [illegible] Name of Stockyard Creek.)

TWO ABORIGINAL SONGS FROM THE HEAD OF THE MACLEAY RIVER.

Yirra war bay
Yirra won are
N-arjar go
W-on ong a
Wondi wondi jar
Gir a min are girla
Girla bar
Rangar rangar lurn.

Bedal bora, bedal bora
Barney barnar
Bedal bora
Barney barnar are
Oh me are bar gera
Dalgoral goomara bill gong.

ANTHROPOLOGICAL SOCIETY OF NEW SOUTH WALES ANNUAL REPORT, 1933

Your Council has pleasure in submitting the Annual Report for the year ending 30th September, 1933. It is gratifying to note that the membership of the Society has been maintained and is now 67 and six corresponding members. Twenty-two new members were enrolled during the year.

The following lectures and papers were presented at the monthly meetings—

1932. Oct. 18. Presidential Address, Dr. Raymond Firth, "The Art of the Savage."

1933. Feb. 21. Notes on the Worimi (Port Stephens District, New South Wales) by Mr. W. J. Enright.

Mar. 21. Film of the Aborigines of Mt. Liebig, Central Australia, taken by Mr. E. O. Stocker, official photographer to the 1933 Expedition of the Board of Anthropological Research of Adelaide University. Mr. Stocker gave an explanatory talk.

Apr. 18. The Aborigines of the Daly River, North Australia, by Mr. W. E. Stanner, who carried out research work in that district in 1932 under the auspices of the National Research Council.

May 20. Experiences in New Guinea, by Mr. Mel Ward, who accompanied the Shackleford-Drongold Expedition to that area to film native life.

June 20. The Maori Land Development Scheme in New Zealand and its application to the Kingite Tribes of Waikato, by Mr. Eric Ramsden.

July 18. Death and Reincarnation on the Sepik River, Mandated Territory of New Guinea, by Mr. Gregory Bateson, who carried out research work in that area under the auspices of the Percy Sladen Trust Fund.

Aug. 8. The Family Life of the Mondugumor Tribe, by Dr. R. F. Fortune.

Food and Growth among the Arapesh of the Wiwiak Mountains, by Dr. Margaret Mead.

Dr. Fortune and Dr. Mead carried out research work in the Mandated Territory of New Guinea during 1932 and 1933.

Sept. 19. Glimpses of the Native Races of Central America, by don Raphel Medina Mattei, B.A., Consul General of Honduras.

The Council, on behalf of the Society, has pleasure in thanking the lecturers for their valued contributions.

The following excursions were held—

June 20—Collaroy, to view rock-carvings.

July 29—Jibbon, National Park, to view rock-carvings and paintings.

Sept. 3—Yarra Bay kitchen-midden, during which a visit was made to the grave of the late Hon. Secretary, Mr. W. W. Thorpe.

Sept. 30—Uloola Falls, National Park, to view rock-carvings.

Your Council is pleased to report that the group of rock carvings at Ben Buckler, Bondi, and also that at Allambie Road, Manly, have been enclosed; The Blue Mountains Shire Council has also agreed to protect the red-hand cave at Glenbrook. The Society supported the Australian Museum in its recommendations to have the aboriginal stone fish-weirs at Brewarrina reconstructed.

Nine ordinary meetings and one special meeting of Council were held, at which the attendances have been as follows.

	Attendances at Council
Dr. H. S. Halcro Wardlaw, President	8
xDr. R. Firth, Past President	0
Mr. K. Kennedy, Vice-President	9
xDr. A. P. Elkin, Vice-President	1
Members of Council	
Dr. C. Anderson	4
xProfessor A. N. Burkitt	0
xDr. Ian Hogbin	0
Mr. C. Greenwell (elected to vacancy)	4
Mr. R. Turner	10
Mr. H. J. Wright	6
Mr. F. D. McCarthy, Hon. Secretary	10
Mr. R. H. Goddard, Hon. Treasurer	8

x Lapsed—By laws A 4.

A number of members of the Society have carried out, or are engaged upon, research work in the field on behalf of the National Research Council:

Dr. H. S. H. Wardlaw, Central Aust.

Dr. Ian Hogbin, Solomon Islands.

F. L. S Bell, Tanga Islands.

W. E. H. Stanner, Daly River, North Australia.

A book has come to us recently, published by Stephenson & Co., 24 Bond St., a firm of Sydney publishers, entitled "Australian Aboriginal Signs and Symbols," written by Robert Turner, F.R.A.I., of this Society, and illustrated by Milton J. Royce. The book is primarily intended for the use of Boy Scouts, but it should be of interest to all who study native art. The plates are exceptionally well drawn and give a good insight into this phase of the life of our aborigines. The letterpress gives a very good description of the carvings and paintings illustrated.

A number of aboriginal sign languages have been consulted and one of use to Scouts and bush-walkers has been produced from them, making a compilation of very useful and usable signs.

As a primary text-book on aboriginal art this is the best of its kind that has been produced for some considerable time. It is very moderately priced, being only 2/6 per copy. K.K.

☆ ☆ ☆

"Australian Aboriginal Place Names," compiled by J. R. Tyrrell, is a book every ethmologist should have. It gives the meanings of a great number of aboriginal names for localities in Australia, and is the most comprehensive book of the kind published. It must be understood that this is not an aboriginal vocabulary, but deals with the names of places only. In the interests of accuracy the compiler has a card index, tabulating the sources of his information. The book is well got up and illustrated with portraits of aborigines. Price 2/6.

In the proceedings of the April 1933 meeting of the Society, published in last issue of "Mandkind," the name of Mr. John Tipper was inadvertently omitted from the list of newly elected members, for which we tender apologies. Mr. Tipper was nominated at the March 21st, 1933 meeting of the Society, and elected as member at the April 18th, 1933 meeting.

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In the report of Mr. Eric Ramsden's lecture on "The Maori Land Development Scheme in New Zealand and its Application to the Kingite Tribes of the Waikato," delivered before the Society, and reported in "Mankind," August, 1933, there are several inaccuracies which unfortunately crept in owing to the editor not being able to attend the meeting on account of illness. In the interests of historical accuracy the following corrections are made :

Te Puea Herangi is not the wife of Te Rata Mahuta, but is his cousin.

Samuel Marsden was never knighted for his work.

Marsden and Sir George Grey never met, so could not have conducted negotiations for the return of the Waikatos to what remained of their tribal lands. In fact Grey consistently opposed the Kingite movement, and Marsden was dead long before it was ever thought of.